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UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/410,614	03/16/2021	10952153	IPW2-USCN213196	9059

3624 7590 02/24/2021

Volpe Koenig
30 SOUTH 17TH STREET, 18TH FLOOR
PHILADELPHIA, PA 19103

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Nicholas W. Anderson, Exeter, UNITED KINGDOM;
Intellectual Ventures II LLC, Wilmington, DE;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

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Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/410,614	05/13/2019	Nicholas W. Anderson	IPW2-USCN213196

CONFIRMATION NO. 9059

3624
Volpe Koenig
30 SOUTH 17TH STREET, 18TH FLOOR
PHILADELPHIA, PA 19103

POA ACCEPTANCE LETTER

OC000000123462207

Date Mailed: 02/23/2021

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/16/2021.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/ttran/

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/410,614	05/13/2019	Nicholas W. Anderson	3059.7430007

CONFIRMATION NO. 9059

26111
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

POWER OF ATTORNEY NOTICE

OC000000123462183

Date Mailed: 02/23/2021

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/16/2021.

- The Power of Attorney to you in this application has been revoked by the applicant. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/ttran/

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	16/410,614
Filing Date	May 13, 2019
First Named Inventor	Nicholas W. Anderson
Title	POWER CONTROL IN A WIRELESS NETWORK
Art Unit	2648
Examiner Name	Dominic E. Rego
Attorney Docket Number	IPW2-USCN213196

SIGNATURE of Applicant or Patent Practitioner

Signature	/John D. Wilt/	Date (Optional)	2021-02-16
Name	John D. Wilt	Registration Number	76,110
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)	Intellectual Ventures II LLC		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/80 (07-12)
Approved for use through 11/30/2014 OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

[X] Practitioners associated with the Customer Number: **3624**

OR

[ ] Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

[X] The address associated with Customer Number: **3624**

OR

[ ] Firm or Individual Name					
Address					
City		State		Zip	
Country		Telephone		Email	

Assignee Name and Address:

Intellectual Ventures II LLC
251 Little Falls Drive
Wilmington, DE 19808

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature	[signature]	Date	1/9/2020
Name	Michelle Macartney	Telephone	
Title	Assistant Company Secretary for Intellectual Ventures II LLC		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	41930456
Application Number:	16410614
International Application Number:	
Confirmation Number:	9059
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Customer Number:	26111
Filer:	John D. Wilt/Caren Burgoon
Filer Authorized By:	John D. Wilt
Attorney Docket Number:	3059.7430007
Receipt Date:	16-FEB-2021
Filing Date:	13-MAY-2019
Time Stamp:	15:32:02
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Assignee showing of ownership per 37 CFR 3.73	IPW2_USCN213196_373c_20210216.pdf	226836 d8d80d0f36d9d2108937aa675f7c6726997d4ce4	no	3

Warnings:

Information:					
2	Assignee showing of ownership per 37 CFR 3.73	IPW2_USCN213196_373c2_20210216.pdf	240472 36ecdb6da985bf7ec579e07326dfa1adcd753589	no	3
Warnings:					
Information:					
3	Power of Attorney	IPW2_USCN213196_POA_20210216.pdf	845075 45984162605cee7a1e32fb2069628d09fe25fd8b	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1312383		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/AIA/96 (08-12)
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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: INTELLECTUAL VENTURES II LLC

Application No./Patent No.: 16/410,614 Filed/Issue Date: 2019-05-13

Titled: POWER CONTROL IN A WIRELESS NETWORK

INTELLECTUAL VENTURES II LLC, a limited liability company

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

B. ☑ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Nicholas William Anderson To: IPWireless, Inc.

   The document was recorded in the United States Patent and Trademark Office at
   Reel 049591, Frame 0120, or for which a copy thereof is attached.

2. From: IPWireless, Inc. To: Northrop Grumman Information Technology, Inc.

   The document was recorded in the United States Patent and Trademark Office at
   Reel 049591, Frame 0239, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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STATEMENT UNDER 37 CFR 3.73(c)

3. From: Northrop Grumman Information Technology, Inc. To: IPWireless, Inc.

The document was recorded in the United States Patent and Trademark Office at
Reel 049591, Frame 0426, or for which a copy thereof is attached.

4. From: IPWireless, Inc. To: Wireless Technology Solutions LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 049591, Frame 0388, or for which a copy thereof is attached.

5. From: Wireless Technology Solutions LLC To: IPWireless, Inc.

The document was recorded in the United States Patent and Trademark Office at
Reel 049591, Frame 0596, or for which a copy thereof is attached.

6. From: IPWireless, Inc. To: Intellectual Ventures Holding 81 LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 049591, Frame 0627, or for which a copy thereof is attached.

☑ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/John D. Wilt/	February 16, 2021
Signature	Date
John D. Wilt	76110
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/96 (08-12)
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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: INTELLECTUAL VENTURES II LLC

Application No./Patent No.: 16/410,614 Filed/Issue Date: 2019-05-13

Titled: POWER CONTROL IN A WIRELESS NETWORK

INTELLECTUAL VENTURES II LLC, a limited liability company

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

B. ☑ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Intellectual Ventures Holding 81 LLC To: Intellectual Ventures II LLC

   The document was recorded in the United States Patent and Trademark Office at

   Reel 049591, Frame 0699, or for which a copy thereof is attached.

2. From: _____ To: _____

   The document was recorded in the United States Patent and Trademark Office at

   Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
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STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: IPWireless, Inc.

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/John D. Wilt/	February 16, 2021
Signature	Date
John D. Wilt	76110
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Equivalent of Form PTO/SB/08a (07-09)

Substitute for form 1449/PTO	*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*	Application Number	16/410,614
	Filing Date	May 13, 2019
	First Named Inventor	Nicholas W. ANDERSON
	Art Unit	2648
	Examiner Name	REGO, DOMINIC E
Sheet 1 of 4	Attorney Docket Number	3059.7430007

U.S. PATENT DOCUMENTS

Examiner initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	US1	5,719,583 B1	02-17-1998	Kanai	
	US2	5,887,245 B1	03-23-1999	Lindroth et al.	
	US3	6,085,106 B1	07-04-2000	Sedonaris et al.	
	US4	6,137,993 B1	10-24-2000	Almgren et al.	
	US5	6,442,398 B1	08-27-2002	Padovani et al.	
	US6	8,512,931 B1	~~01-28-2003~~	~~Kim et al.~~ Deprez, et al.	08/2013
Change(s) applied to document, /M.E.G./ 12/22/2020	US7	6,597,723 B1	07-22-2003	Zeira et al.	
	US8	6,628,956 B2	09-30-2003	Bark et al.	
	US9	6,823,194 B2	11-23-2004	Haim	
	US10	6,983,166 B2	01-03-2006	Shiu et al.	
	US11	7,190,688 B1	03-13-2007	Kamel et al.	
	US12	7,277,721 B2	10-02-2007	Okumura et al.	
	US13	8,134,994 B2	03-13-2012	Liu et al.	
	US14	5,257,283 A	10-26-1993	Gilhousen et al.	
	US15	8,134,994 B2	03-13-2012	Liu et al.	*English Equivalent of JP 2004-248247
	US16	6,442,398 B1	08-27-2002	Padovani et al.	
	US17	6,512,931 B1	01-28-2003	Kim et al.	*English Equivalent of CN1128515
	US18	6,804,512 B1	10-12-2004	Baker et al.	
	US19	2001/0036823 A1	11-01-2001	Van Lieshout et al.	
	US20	2003/0032411 A1	02-13-2003	Kim et al.	

FOREIGN PATENT DOCUMENTS

Examiner initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]
	FP1	EP 1071227 A2	01-24-2001	Usuda et al.		
	FP2	EP 1176739 A1	01-30-2002	Hayashi et al.		
	FP3	EP 1367740 A1	12-03-2003	Zeira et al.		
	FP4	GB 2350522 A1	11-29-2000	Hulbert et al.		
	FP5	JP 2004040187 A2	02-05-2004	Miya et al.		
	FP6	WO 1996/31009 A1	10-03-1996	Otten		
	FP7	WO 1999/07105 A2	02-11-1999	Larsen et al.		
	FP8	WO 2000/57574 A1	09-28-2000	Zeira et al.		

Examiner Signature	/DOMINIC E REGO/	Date Considered	07/28/2020

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.E.R/

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/410,614	05/13/2019	Nicholas W. Anderson	3059.7430007	9059

26111 7590 02/09/2021

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
REGO, DOMINIC E	

ART UNIT	PAPER NUMBER
2648	

NOTIFICATION DATE	DELIVERY MODE
02/09/2021	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

e-office@sternekessler.com

Response to Rule 312 Communication	Application No.	Applicant(s)	
	16/410,614	Anderson, Nicholas W.	
	Examiner	Art Unit	AIA (FITF) Status
	DOMINIC E REGO	2648	No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1. ☑ The amendment filed on 02 February 2021 under 37 CFR 1.312 has been considered, and has been:

   a) ☑ entered.

   b) ☐ entered as directed to matters of form not affecting the scope of the invention.

   c) ☐ disapproved because the amendment was filed after the payment of the issue fee.
   Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

   d) ☐ disapproved. See explanation below.

   e) ☐ entered in part. See explanation below.

/DOMINIC E REGO/
Primary Examiner, Art Unit 2648

Yes, enter please

/DOMINIC E REGO/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Nicholas W. ANDERSON	Confirmation No.: 9059
Applicant: Intellectual Ventures II LLC	Art Unit: 2648
Application No.: 16/410,614	Examiner: REGO, Dominic E.
Filing Date: May 13, 2019	Atty. Docket: 3059.7430007

Title: **Power Control in a Wireless Network**

Amendment Under 37 C.F.R. § 1.312

Mail Stop Issue Fee

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Commissioner:

Submitted herein is an Amendment Under 37 C.F.R. § 1.312. As payment of the issue fee has not yet been made or is filed herewith, Applicant respectfully submits that filing under 37 C.F.R. § 1.312 is proper. (M.P.E.P. § 714.16.)

Amendments to the Claims are reflected in the listing of claims which begins on page **2** of this paper.

Remarks and Arguments begin on page **5** of this paper.

It is not believed that extensions of time are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any additional fees required to continue prosecution or appeal of this application (including issue fee, fees for net addition of claims or forwarding to appeal) are hereby authorized to be charged to our Deposit Account No. 19-0036.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Nicholas W. ANDERSON	Confirmation No.: 9059
Applicant: Intellectual Ventures II LLC	Art Unit: 2648
Application No.: 16/410,614	Examiner: REGO, Dominic E.
Filing Date: May 13, 2019	Atty. Docket: 3059.7430007

Title: **Power Control in a Wireless Network**

Amendment Under 37 C.F.R. § 1.312

Mail Stop Issue Fee

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Commissioner:

Submitted herein is an Amendment Under 37 C.F.R. § 1.312. As payment of the issue fee has not yet been made or is filed herewith, Applicant respectfully submits that filing under 37 C.F.R. § 1.312 is proper. (M.P.E.P. § 714.16.)

Amendments to the Claims are reflected in the listing of claims which begins on page **2** of this paper.

Remarks and Arguments begin on page **5** of this paper.

It is not believed that extensions of time are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any additional fees required to continue prosecution or appeal of this application (including issue fee, fees for net addition of claims or forwarding to appeal) are hereby authorized to be charged to our Deposit Account No. 19-0036.

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

9. (Previously Presented) A user equipment (UE) comprising:
a transmitter;
a receiver; and
a processor operatively coupled to the transmitter and the receiver,
wherein the processor is configured to cause:
the receiver to receive, from a network device, an indication that transmit power control (TPC) command accumulation is enabled,
the receiver to receive, from the network device, on a single physical channel, scheduling information and power control information that includes a multi-level TPC command, and
the transmitter to transmit, to the network device, an uplink signal based on the received scheduling information and the multi-level TPC command.

10. (Previously Presented) The UE of claim 9, wherein the multi-level TPC command includes a value selected from a plurality of pre-defined values.

11. (Previously Presented) The UE of claim 9, wherein the transmitter is further configured to transmit the uplink signal on an uplink shared channel.

12. (Previously Presented) The UE of claim 9, wherein the network device is one of a Node-B or a base station.

13. (Previously Presented) The UE of claim 9, wherein the multi-level TPC command includes a set of values that includes at least two values up or at least two values down.

14. (Previously Presented) The UE of claim 9, wherein the network device generates the multi-level TPC command by comparing a measured signal-to-noise-plus-interference ratio (SNIR) with an SNIR target value.

15. (Previously Presented) The UE of claim 14, wherein the network device generates the SNIR target value based on an error metric of the uplink signal.

16. (Previously Presented) The UE of claim 9, wherein an interference measurement table stored in the network device is updated based on an uplink interference value measured from the uplink signal.

17. (Previously Presented) The UE of claim 16, wherein the processor is further configured to cause the receiver to receive interference measurements from the interference measurement table stored in the network device.

18. (Previously Presented) The UE of claim 9, wherein the processor is further configured to cause the receiver to receive an indication of a beacon power level from the network device.

19. (Currently Amended) A method performed by a user equipment (UE) having a transmitter and a receiver, the method comprising:

receiving, by the UE, an indication from a network device that transmit power control (TPC) command accumulation is enabled;

receiving, by the UE on a single physical channel from the network device, scheduling information and power control information that includes a multi-level TPC command; and

transmitting, by the UE to the network device, an uplink signal based on the ~~transmitted~~ received scheduling information and the multi-level TPC command.

20. (Previously Presented) The method of claim 19, wherein the multi-level TPC command includes a value selected from a plurality of pre-defined values.

21. (Previously Presented) The method of claim 19, wherein transmitting the uplink signal includes transmitting the uplink signal on an uplink shared channel.

22. (Previously Presented) The method of claim 19, wherein the network device is one of a Node-B or a base station.

23. (Previously Presented) The method of claim 19, wherein the multi-level TPC command includes a set of values that includes at least two values up or at least two values down.

24. (Previously Presented) The method of claim 19, wherein the network device generates the multi-level TPC command by comparing a measured signal-to-noise-plus-interference ratio (SNIR) with an SNIR target value.

25. (Previously Presented) The method of claim 24, wherein the network device generates the SNIR target value based on an error metric of the uplink signal.

26. (Previously Presented) The method of claim 19, wherein an interference measurement table in the network device is updated based on an uplink interference value measured from the uplink signal.

27. (Previously Presented) The method of claim 26, further comprising:
receiving, by the UE, interference measurements from the interference measurement table stored in the network device.

28. (Previously Presented) The method of claim 19, further comprising:
receiving, by the UE, an indication of a beacon power level from the network device.

Remarks

None of the amendments add new matter.

Claims 9–28 are pending in the application, with claims 9 and 19 being the independent claims. Claims 1–8 were cancelled in a previous Applicant correspondence. In this communication, claim 19 is sought to be amended to address a typographical/antecedent basis error. Method claim 19 is analogous to apparatus claim 9. This amendment does not raise any new issues for consideration. Accordingly, Applicant respectfully requests entry of this amendment.

Reconsideration of this application and entry of the above Amendment are respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

/Ross G. Hicks, #56,374/

Ross G. Hicks
Attorney for Applicant
Registration No. 56,374

Date: February 2, 2021

1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600

16221605_1.docx

Electronic Patent Application Fee Transmittal

Application Number:	16410614
Filing Date:	13-May-2019
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Filer:	Ross Gordon Hicks/Lynette Miller
Attorney Docket Number:	3059.7430007

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	1501	1	1200	1200

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**1200**

Electronic Acknowledgement Receipt	
EFS ID:	41811998
Application Number:	16410614
International Application Number:	
Confirmation Number:	9059
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Customer Number:	26111
Filer:	Ross Gordon Hicks/Lynette Miller
Filer Authorized By:	Ross Gordon Hicks
Attorney Docket Number:	3059.7430007
Receipt Date:	02-FEB-2021
Filing Date:	13-MAY-2019
Time Stamp:	14:40:36
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1200
RAM confirmation Number	E202122E41028734
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	2021-02-02-Cover-Letter-3059-7430007.pdf	259513 a43b9a27bfa623d280b26f39ce7c49896dbfe67f	no	1
Warnings:					
Information:					
2	Issue Fee Payment (PTO-85B)	2021-02-02-Issue-Fee-3059-7430007.pdf	1068167 a1baa59e868d4c3ac48e14abf9c5c66a3a81dc0a	no	1
Warnings:					
Information:					
3	Miscellaneous Incoming Letter	2021-02-02-Comments-Reasons-Allowance-3059-7430007.pdf	99557 9a319dd79a15922e292e1fd44fa54a9d4fb078fe	no	1
Warnings:					
Information:					
4		2021-02-02-Amendment-312-3059-7430007.pdf	111897 72a08ad8e26d06bbea46bd1c3588b9d324175b43	yes	5

Multipart Description/PDF files in .zip description

Document Description	Start	End
Amendment after Notice of Allowance (Rule 312)	1	1
Claims	2	4
Applicant Arguments/Remarks Made in an Amendment	5	5

Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	30138 26e3f7c933d415690aa151e794c214253fe276cf	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	1569272

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

ROSS G. HICKS
DIRECTOR
(202) 772-8578
RHICKS@STERNEKESSLER.COM

February 2, 2021

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Confirmation No. 9059
Mail Stop Issue Fee

Re: Allowed U.S. Utility Patent Application
Appl. No. 16/410,614; Filed: May 13, 2019
For: **Power Control in a Wireless Network**
Inventor: Nicholas W. ANDERSON
Our Ref: 3059.7430007

Commissioner:

In response to the **Notice of Allowance and Fee(s) Due** dated November 10, 2020, the following documents are transmitted for appropriate action by the U.S. Patent and Trademark Office:

1. Online Credit Card Payment Authorization for $1,200.00 to cover: $1,200.00 - Issue Fee;
2. Issue Fee Transmittal (Form PTOL-85);
3. Comments on Statement of Reasons for Allowance; and
4. Amendment Under 37 C.F.R. § 1.312.

The above-listed documents are filed electronically.

Fee payment is provided through online credit card payment. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

/Ross G. Hicks, #56,374/

Ross G. Hicks
Attorney for Applicant
Registration No. 56,374

RGH/lam
Enclosures

16098864_1.docx

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

26111 7590 11/10/2020
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/410,614	05/13/2019	Nicholas W. Anderson	3059.7430007	9059

TITLE OF INVENTION: POWER CONTROL IN A WIRELESS NETWORK

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	02/10/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
REGO, DOMINIC E	2648	455-522000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

Sterne, Kessler, Goldstein & Fox P.L.L.C.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: **Intellectual Ventures II LLC**

(B) RESIDENCE: (CITY and STATE OR COUNTRY): **Wilmington, DE**

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☒ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. **19-0036**

5. **Change in Entity Status** (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Ross G. Hicks, #56,374/ Date 02-Feb-2021

Typed or printed name **Ross G. Hicks** Registration No. **56,374**

PTOL-85 Part B (08-18) Approved for use through 01/31/2020 OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Nicholas W. ANDERSON	Confirmation No.: 9059
Applicant: Intellectual Ventures II LLC	Art Unit: 2648
Application No.: 16/410,614	Examiner: REGO, Dominic E.
Filing Date: May 13, 2019	Atty. Docket: 3059.7430007

Title: **Power Control in a Wireless Network**

Comments on Statement of Reasons for Allowance

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Mail Stop: Issue Fee

Commissioner:

Applicant thanks the Examiner for indicating the allowability of claims 9-28 in the Notice of Allowance dated November 10, 2020.

Comments on Statement of Reasons for Allowance

Applicant notes the Examiner's Statement of Reasons for Allowance presented on page 2 of the Notice of Allowance. Applicant reserves the right to demonstrate claims 9-28 are allowable over the art made of record for further reasons related to any of their recited features. Applicant further contends that reservation of this right does not give rise to any implication regarding whether the Applicant agrees with or acquiesces in the reasoning provided by the Examiner.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

/Ross G. Hicks, #56,374/

Ross G. Hicks
Attorney for Applicant
Registration No. 56,374

Date: February 2, 2021
1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600

16098873_1.docx

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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NOTICE OF ALLOWANCE AND FEE(S) DUE

26111 7590 11/10/2020

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
REGO, DOMINIC E	
ART UNIT	PAPER NUMBER
2648	

DATE MAILED: 11/10/2020

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/410,614	05/13/2019	Nicholas W. Anderson	3059.7430007	9059

TITLE OF INVENTION: POWER CONTROL IN A WIRELESS NETWORK

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	02/10/2021

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PTOL-85 (Rev. 02/11)

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

26111 7590 11/10/2020

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/410,614	05/13/2019	Nicholas W. Anderson	3059.7430007	9059

TITLE OF INVENTION: POWER CONTROL IN A WIRELESS NETWORK

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	02/10/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
REGO, DOMINIC E	2648	455-522000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1_____
2_____
3_____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required) ❑Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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EXAMINER	
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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 02/11)

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 16/410,614	Applicant(s) Anderson, Nicholas W.	
	Examiner DOMINIC E REGO	Art Unit 2648	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to 10/30/2020.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 9-28 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/DOMINIC E REGO/
Primary Examiner, Art Unit 2648

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

Terminal Disclaimer

2. The terminal disclaimer filed on 10/30/2020 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Patent No. 10,292,113 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Allowable Subject Matter

3. Claims 9-28 are allowed for the same reasons presented in claims 1-8 of US Patent No. 10,292,113, Application No. 15/645,523 or claims 1-12 of US Patent No. 9,414,326, application number 14/713,719 and updated search conducted on 11/04/2020.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wesley Kim can be reached on 571-272-7867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DOMINIC E REGO/
Primary Examiner, Art Unit 2648
Tel 571-272-8132

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/410,614	Anderson, Nicholas W.
	Examiner	**Art Unit**
	DOMINIC E REGO	2648

CPC						
Symbol					**Type**	**Version**
H04W	/	52	/	242	F	2013-01-01
H04W	/	52	/	06	I	2013-01-01
H04W	/	52	/	221	I	2013-01-01
H04W	/	52	/	24	I	2013-01-01
H04W	/	52	/	243	I	2013-01-01
H04W	/	72	/	0473	I	2013-01-01
H04W	/	52	/	241	I	2013-01-01
H04W	/	72	/	1268	I	2013-01-01
H04W	/	72	/	1289	I	2013-01-01
H04W	/	52	/	08	A	2013-01-01
H04W	/	52	/	10	A	2013-01-01
H04W	/	52	/	12	A	2013-01-01

CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/DOMINIC E REGO/ Primary Examiner, Art Unit 2648	04 November 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	9	3

U.S. Patent and Trademark Office — Part of Paper No.: 20201104

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/410,614	Anderson, Nicholas W.
	Examiner	**Art Unit**
	DOMINIC E REGO	2648

INTERNATIONAL CLASSIFICATION				
CLAIMED				
H04W	/	52	/	24
H04W	/	52	/	06
H04W	/	52	/	22
H04W	/	52	/	08
H04W	/	52	/	10
H04W	/	52	/	12
H04W	/	72	/	04

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

NONE (Assistant Examiner) (Date)	**Total Claims Allowed:** 20	
/DOMINIC E REGO/ Primary Examiner, Art Unit 2648 (Primary Examiner) 04 November 2020 (Date)	O.G. Print Claim(s) 9	O.G. Print Figure 3

U.S. Patent and Trademark Office Part of Paper No.: 20201104

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/410,614	Anderson, Nicholas W.
	Examiner	**Art Unit**
	DOMINIC E REGO	2648

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☑ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1	2	10	11	19	20	28								
	2	3	11	12	20										
	3	4	12	13	21										
	4	5	13	14	22										
	5	6	14	15	23										
	6	7	15	16	24										
	7	8	16	17	25										
	8	9	17	18	26										
1	9	10	18	19	27										

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/DOMINIC E REGO/ Primary Examiner, Art Unit 2648	04 November 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	9	3

U.S. Patent and Trademark Office — Part of Paper No.: 20201104

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/410,614	Anderson, Nicholas W.
	Examiner	Art Unit
	DOMINIC E REGO	2648

CPC - Searched*		
Symbol	**Date**	**Examiner**
H04W52/242, H04W52/06, H04W52/221, H04W52/24, H04W52/241, H04W52/243, H04W52/08, H04W52/10, H04W52/12, H04W72/0473, H04W72/1268, H04W72/1289	01/09/2020	DR

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	**Date**	**Examiner**
H04W52/242, H04W52/06, H04W52/221, H04W52/24, H04W52/241, H04W52/243, H04W52/08, H04W52/10, H04W52/12, H04W72/0473, H04W72/1268, H04W72/1289	01/09/2020	DR
EAST, Inventor, and Assignee search	01/09/2020	DR
Updated above search	07/28/2020	DR
Search in iq.ip.com	07/28/2020	DR
Updated above search	11/04/2020	DR
NPL search using google patent, see attached	11/04/2020	DR

/DOMINIC E REGO/ Primary Examiner, Art Unit 2648	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/410,614	Anderson, Nicholas W.
	Examiner	Art Unit
	DOMINIC E REGO	2648

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	PGPUB Text search-See interference search history	11/04/2020	DR

/DOMINIC E REGO/ Primary Examiner, Art Unit 2648	

Web Search History

date, time	web site	search string
11/4/2020 10:28:56 AM	Google Patents	**Keyword Group 1** [(indication) ((transmit) (power) (control) (TPC)) (command OR instruct) (combine OR aggregate OR composite OR cumulative OR summation OR accumulate) (physical) (channel) (scheduling) (different various multi$3 many several numerous variety plurality alternat$3 another other second primary secondary two) (uplink OR reverse-link)]
11/4/2020 10:29:28 AM	Google Patents	**Keyword Group 1** [(indication) ((transmit) (power) (control) (TPC)) (command OR instruct) (combine OR aggregate OR composite OR cumulative OR summation OR accumulate) (physical) (channel) (scheduling) (different various multi$3 many several numerous variety plurality alternat$3 another other second primary secondary two) (uplink OR reverse-link)] **Before** Priority Date: priority:20040812
11/4/2020 10:29:47 AM	Google Patents	**Keyword Group 1** [(indication) ((transmit) (power) (control) (TPC)) (command OR instruct) (combine OR aggregate OR composite OR cumulative OR summation OR accumulate) (physical) (channel) (scheduling)] **Before** Priority Date: priority:20040812
11/4/2020 10:30:00 AM	Google Patents	**Keyword Group 1** [(indicate) ((transmit) (power) (control) (TPC)) (command OR instruct) (combine OR aggregate OR composite OR cumulative OR summation OR accumulate) (physical) (channel) (scheduling)] **Before** Priority Date: priority:20040812

Yes, please enter

/DOMINIC E REGO/

Amendment Under 37 C.F.R. § 1.116
Expedited Procedure – Art Unit 2648

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Nicholas W. ANDERSON	Confirmation No.: 9059
Applicant: Intellectual Ventures II LLC	Art Unit: 2648
Application No.: 16/410,614	Examiner: REGO, Dominic E.
Filing Date: May 13, 2019	Atty. Docket: 3059.7430007

Title: **Power Control in a Wireless Network**

Amendment and Reply Under 37 C.F.R. § 1.116

Mail Stop AF

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Commissioner:

In reply to the Office Action dated **August 3, 2020**, Applicant submits the following Amendment and Remarks.

Amendments to the Claims are reflected in the listing of claims which begins on page **2** of this paper.

Remarks and Arguments begin on page **5** of this paper.

It is not believed that extensions of time are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any additional fees required to continue prosecution or appeal of this application (including issue fee, fees for net addition of claims or forwarding to appeal) are hereby authorized to be charged to our Deposit Account No. 19-0036.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S154	43	((transmi$6 near2 power near2 control$4 tpc) near2 command$3 with schedul$3 adj4 information).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:13
S155	298	(nicholas near2 anderson).in.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:13
S156	4	S154 and S155	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:13
S157	6,756	(intellectual near2 ventures ipwireless wireless near technology northrop near grumman).as.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:13
S158	4	S154 and S157	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:13

11/4/2020 11:43:07 AM
C:\Users\drego\Documents\EAST\Workspaces\16410614.wsp

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	297	"10292113" "8155042" "20200288404" "20100067496" "20110159914" "20160014834" "20200169959" "20190098585" "20200229104" "20200221395" "20190230597" "20200186234" "20170188316" "20170118756" "20140369312" "20200077342" "20200053657" "20130223411" "20170353932" "10701581" "20090197630" "20200329437" "20200280934" "20170034801" "20180234938" "20100273515" "20140334392" "20180359707" "20110319121" "20190363843" "20190327687" "20120224553" "20130010720" "20150334735" "20140241237" "10674458" "7307977" "9642099" "9603108" "20190081675" "20140241236" "20190045456" "10149254" "20130322332" "20180192376" "20140078951" "9185663" "20140241235" "20170064648" "20120300727" "20200287753" "20150358924" "20140219234" "20140153462" "20150156726" "20050220042" "20080049710" "20180131425" "10506603" "10541797" "20180279313" "20120224535" "20120188974" "20170331593" "20170230915" "20180123744" "10602456" "20150071081" "20200221391" "20060223445" "20170208638" "20150382306" "20190261407" "20180206195" "20180310257" "20200022089" "20170230995" "20180092073" "20090286566" "20130242868" "20130322364" "20190268184"	US-PGPUB; USPAT; DERWENT	OR	ON	2020/11/04 10:14
L2	5,457	(transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) with power near4 information with schedul$3 near4 information	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 10:14

L3	2,524	L2 same ((tpc transmi$6 near3 power near3 control$4) near4 command$3)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 10:14
L4	1,585	L3 same shar$3 near2 channel	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 10:14
L5	3	1 and 4	US-PGPUB; USPAT; DERWENT	OR	ON	2020/11/04 10:17
L6	0	5 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 10:17
S159	1,726	(transmi$6 near2 power near2 control$4 tpc) near2 command$3 with schedul$3 adj4 information same shar$3 near2 channel	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:14
S160	3	S159 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:14
S161	154	power near7 command$3 with accumulat$3 with enab$4	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:14
S162	17	S161 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:14
S163	1,902	(transmi$6 near2 power near2 control$4 tpc) near2 command$3 same schedul$3 near3 information same shar$3 near2 channel	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:14
S164	21,755	(H04W52/06 H04W52/08 H04W52/10 H04W52/12 H04W52/24 H04W52/241 H04W52/242 H04W52/221 H04W52/243 H04W72/0473 H04W72/1268 H04W72/1289).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:14
S165	191	S163 and S164	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:14
S166	2	S165 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:14

S167	113	(power near3 command$3 near6 accumulat$3 with (enab$3 active))	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:14
S168	5	S167 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:14
S169	5,457	(transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) with power near4 information with schedul$3 near4 information	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:15
S170	2,524	S169 same ((tpc transmi$6 near3 power near3 control$4) near4 command$3)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:15
S171	1,585	S170 same shar$3 near2 channel	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:15
S172	1	S171 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:15
S173	1	S171 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/11/04 08:16

11/4/2020 11:43:38 AM
C:\Users\drego\Documents\EAST\Workspaces\16410614.wsp

Main Concept Text NPL search using ip.com

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a transmitter; a receiver; and a processor operatively coupled to the transmitter and the receiver, wherein the processor is configured to cause: the receiver to receive, from a network device, an indication that transmit power control (TPC) command accumulation is enabled, the receiver to receive, from the network device, on a single physical channel, scheduling information and power control information that includes a multi-level TPC command, and the transmitter to transmit, to the network device, an uplink signal based on the received scheduling information and the multi-level TPC command

(No Concept Modifiers)

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(No Filters)

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Options

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De-dup: Simple Family Numbers

Cut-off: None

Sort: Relevance

Content: Patent Publications (164)

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US Patents

US Designs

US Applications

EPO Patents

EPO Applications

China Patents

China Applications

Japan Patents

Japan Applications

Korea Patents

Korea Applications

WIPO Applications

Argentina Patents

Argentina Applications

Brazil Patents

Brazil Applications

Canada Patents

Canada Applications

Chile Patents

Chile Applications
Colombia Applications
Costa Rica Applications
Cuba Patents
Cuba Applications
Dominican Republic Applications
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Ecuador Applications
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Panama Applications
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Austria Applications
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Finland Applications
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Montenegro Applications
Netherlands Patents
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Republic of Moldova Patents
Republic of Moldova Applications
Romania Patents
Romania Applications
San Marino Patents
San Marino Applications
Serbia Patents
Serbia Applications
Slovakia Patents
Slovakia Applications
Slovenia Patents
Spain Patents
Spain Applications
Sweden Patents
Sweden Applications
Switzerland Patents
Switzerland Applications
Ukraine Patents
Yugoslavia/Serbia and Montenegro Patents
Yugoslavia/Serbia and Montenegro Applications
Armenia Patents
Australia Patents
Australia Applications

Cyprus Patents
Gulf Cooperation Council Patents
Hong Kong Patents
India Patents
India Applications
Indonesia Patents
Indonesia Applications
Israel Applications
Jordan Patents
Kyrgyzstan Patents
Macao Applications
Malaysia Patents
Mongolia Patents
New Zealand Patents
Philippines Patents
Philippines Applications
Saudi Arabia Patents
Singapore Patents
Singapore Applications
Taiwan Patents
Taiwan Applications
Tajikistan Patents
Tajikistan Applications
Thailand Applications
Uzbekistan Patents
Vietnam Patents
Algeria Patents
ARIPO Patents
ARIPO Applications
Egypt Patents
Kenya Patents
Malawi Patents
Morocco Patents
Morocco Applications
OAPI Patents
South Africa Patents
Tunisia Applications
Zambia Patents
Zimbabwe Patents
EAPO Patents
EAPO Applications
Georgia Patents
Georgia Applications
Kazakhstan Patents
Kazakhstan Applications
Russia Patents
Russia Applications
Turkey Patents

Turkey Applications

Doc Code: DIST.E.FILE **Document Description: Electronic Terminal Disclaimer - Filed**	PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT**
Application Number	16410614
Filing Date	13-May-2019
First Named Inventor	Nicholas Anderson
Attorney Docket Number	3059.7430007
Title of Invention	Power Control in a Wireless Network

☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
Intellectual Ventures II LLC	100%

The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

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as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:
- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

(●) Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request. ( ) I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.	
Applicant claims the following fee status: ( ) Small Entity ( ) Micro Entity (●) Regular Undiscounted I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.	
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am: (●) An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application Registration Number 56374 ( ) A sole inventor ( ) A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ( ) A joint inventor; all of whom are signing this request	
Signature	/Ross G. Hicks, #56,374/
Name	Ross G. Hicks

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal

Application Number:	16410614
Filing Date:	13-May-2019
Title of Invention:	Power Control in a Wireless Network
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Filer:	Ross Gordon Hicks/Lynette Miller
Attorney Docket Number:	3059.7430007

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	1814	1	170	170
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**170**

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 16410614

Filing Date: 13-May-2019

Applicant/Patent under Reexamination: Anderson

Electronic Terminal Disclaimer filed on October 30, 2020

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	40993428
Application Number:	16410614
International Application Number:	
Confirmation Number:	9059
Title of Invention:	Power Control in a Wireless Network
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Customer Number:	26111
Filer:	Ross Gordon Hicks/Lynette Miller
Filer Authorized By:	Ross Gordon Hicks
Attorney Docket Number:	3059.7430007
Receipt Date:	30-OCT-2020
Filing Date:	13-MAY-2019
Time Stamp:	14:17:20
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$170
RAM confirmation Number	E20200TE17167737
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	33659 1f6078cf253cc90ea5b30eb1df4fde5ade87a5d1	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30396 9a475077cf0c286007664343a4db7af90aeef06d	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	64055		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Amendment Under 37 C.F.R. § 1.116
Expedited Procedure – Art Unit 2648

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Nicholas W. ANDERSON	Confirmation No.: 9059
Applicant: Intellectual Ventures II LLC	Art Unit: 2648
Application No.: 16/410,614	Examiner: REGO, Dominic E.
Filing Date: May 13, 2019	Atty. Docket: 3059.7430007

Title: **Power Control in a Wireless Network**

Amendment and Reply Under 37 C.F.R. § 1.116

Mail Stop AF

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Commissioner:

In reply to the Office Action dated **August 3, 2020**, Applicant submits the following Amendment and Remarks.

Amendments to the Claims are reflected in the listing of claims which begins on page **2** of this paper.

Remarks and Arguments begin on page **5** of this paper.

It is not believed that extensions of time are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any additional fees required to continue prosecution or appeal of this application (including issue fee, fees for net addition of claims or forwarding to appeal) are hereby authorized to be charged to our Deposit Account No. 19-0036.

Electronic Acknowledgement Receipt	
EFS ID:	40993354
Application Number:	16410614
International Application Number:	
Confirmation Number:	9059
Title of Invention:	Power Control in a Wireless Network
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Customer Number:	26111
Filer:	Ross Gordon Hicks/Lynette Miller
Filer Authorized By:	Ross Gordon Hicks
Attorney Docket Number:	3059.7430007
Receipt Date:	30-OCT-2020
Filing Date:	13-MAY-2019
Time Stamp:	14:12:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2020-10-30-Amendment-Reply-116-3059-7430007.pdf	143716 4ff4e126ffd5cfbba0189da1d9dc378f3b4dcf13	yes	6

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Applicant Arguments/Remarks Made in an Amendment	5	6
	Claims	2	4
	Response After Final Action	1	1
Warnings:			
Information:			
	Total Files Size (in bytes):	143716	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 9–28 are pending in the application, with claims 9 and 19 being the independent claims. No claims are sought to be cancelled. Claims 1–8 had been cancelled in an earlier communication. Claims 9 and 11 have been amended to address minor typographical errors. No new claims are sought to be added. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding rejections and that they be withdrawn.

Double Patenting – Claims 9–28

Claims 9–28 were rejected under an obviousness-type double patenting rejection as being allegedly unpatentable over claims 1–8 of U.S. Patent No. 10,292,113 or claims 1–12 of U.S. Patent No. 9,414,326. (Office Action, pp. 2–11).

Without acquiescing to the merits of this obviousness-type double patenting rejection, Applicant submits a Terminal Disclaimer concurrently herewith to overcome the double patenting rejection. The filing of this Terminal Disclaimer is not an admission of the propriety of the rejection. *Quad Environmental Technologies Corp. v. Union Sanitary District*, 946 F.2d 870, 20 USPQ2d 1392 (Fed. Cir. 1991). Thus, Applicant respectfully requests the Examiner reconsider and withdraw the rejection, and pass all pending claims to allowance.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

/Ross G. Hicks, #56,374/

Ross G. Hicks
Attorney for Applicant
Registration No. 56,374

Date: October 30, 2020

1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600

15733593_2

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1–8. (Cancelled)

9. (Currently Amended) A user equipment (UE) comprising:

a transmitter;

a receiver; and

a processor operatively coupled to the transmitter and the receiver,

wherein the processor is configured to cause:

the receiver to receive, from a network device, an indication that transmit power control (TPC) command accumulation is enabled,

the receiver to receive, from the network device, on a single physical channel, scheduling information and power control information that includes a multi-level TPC command, and

the transmitter to transmit, to the network device, an uplink signal based on the received scheduling information and the multi-level TPC command.

10. (Previously Presented) The UE of claim 9, wherein the multi-level TPC command includes a value selected from a plurality of pre-defined values.

11. (Currently Amended) The UE of claim 9, wherein the transmitter is further configured to transmit the uplink signal on an uplink shared channel.

12. (Previously Presented) The UE of claim 9, wherein the network device is one of a Node-B or a base station.

13. (Previously Presented) The UE of claim 9, wherein the multi-level TPC command includes a set of values that includes at least two values up or at least two values down.

14. (Previously Presented) The UE of claim 9, wherein the network device generates the multi-level TPC command by comparing a measured signal-to-noise-plus-interference ratio (SNIR) with an SNIR target value.

15. (Previously Presented) The UE of claim 14, wherein the network device generates the SNIR target value based on an error metric of the uplink signal.

16. (Previously Presented) The UE of claim 9, wherein an interference measurement table stored in the network device is updated based on an uplink interference value measured from the uplink signal.

17. (Previously Presented) The UE of claim 16, wherein the processor is further configured to cause the receiver to receive interference measurements from the interference measurement table stored in the network device.

18. (Previously Presented) The UE of claim 9, wherein the processor is further configured to cause the receiver to receive an indication of a beacon power level from the network device.

19. (Previously Presented) A method performed by a user equipment (UE) having a transmitter and a receiver, the method comprising:

receiving, by the UE, an indication from a network device that transmit power control (TPC) command accumulation is enabled;

receiving, by the UE on a single physical channel from the network device, scheduling information and power control information that includes a multi-level TPC command; and

transmitting, by the UE to the network device, an uplink signal based on the transmitted scheduling information and the multi-level TPC command.

20. (Previously Presented) The method of claim 19, wherein the multi-level TPC command includes a value selected from a plurality of pre-defined values.

21. (Previously Presented) The method of claim 19, wherein transmitting the uplink signal includes transmitting the uplink signal on an uplink shared channel.

22. (Previously Presented) The method of claim 19, wherein the network device is one of a Node-B or a base station.

23. (Previously Presented) The method of claim 19, wherein the multi-level TPC command includes a set of values that includes at least two values up or at least two values down.

24. (Previously Presented) The method of claim 19, wherein the network device generates the multi-level TPC command by comparing a measured signal-to-noise-plus-interference ratio (SNIR) with an SNIR target value.

25. (Previously Presented) The method of claim 24, wherein the network device generates the SNIR target value based on an error metric of the uplink signal.

26. (Previously Presented) The method of claim 19, wherein an interference measurement table in the network device is updated based on an uplink interference value measured from the uplink signal.

27. (Previously Presented) The method of claim 26, further comprising:

receiving, by the UE, interference measurements from the interference measurement table stored in the network device.

28. (Previously Presented) The method of claim 19, further comprising:

receiving, by the UE, an indication of a beacon power level from the network device.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/410,614	Filing Date 05/13/2019	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $460 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	10/30/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0		x $480 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/TRINA RIDDICK/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/410,614	05/13/2019	Nicholas W. Anderson	3059.7430007	9059

26111 7590 08/03/2020

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
REGO, DOMINIC E	

ART UNIT	PAPER NUMBER
2648	

NOTIFICATION DATE	DELIVERY MODE
08/03/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

e-office@sternekessler.com

Office Action Summary	Application No. 16/410,614	Applicant(s) Anderson, Nicholas W.	
	Examiner DOMINIC E REGO	Art Unit 2648	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 05/08/2020.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☑ This action is **FINAL.** 2b) ☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 9-20 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 9-20 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the claims at issue are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

3. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the reference application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

4. The USPTO internet Web site contains terminal disclaimer forms which may be used. Please visit http://www.uspto.gov/forms/. The filing date of the application will determine what form should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to http://www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

5. Claims 9-28 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 10,292,113 or claims 1-12 of U.S. Patent No. 9,414,326. Although the conflicting claims are not identical, they are not patentably distinct from each other because Independent claim 1 of the present of application are broader in scope and thus encompass the subject matter already claimed in allowed claim 1 in respectively of US patent application 15/645,523, US Patent No: 10,292,113 or US Patent Application 14/713,719, US. Patent No. 9,414,326.

6. This is a provisional nonstatutory double patenting rejection because the patentably indistinct claims have not in fact been patented.

Instant Application	Patent No. 10,292,113, Application #15/645,523
9. A user equipment (UE) comprising: a transmitter; a receiver; and a processor operatively coupled to the	1. A network device comprising: a transmitter; a receiver; and a processor operatively coupled to the

radio, wherein the processor is configured to cause: the receiver to receive, from a network device, an indication that transmit power control (TPC) command accumulation is enabled, the receiver to receive, from a network device, on a single physical channel, scheduling information and power control information that includes a multi-level TPC command, and the transmitter to transmit, to the network device, an uplink signal based on the received scheduling information and the multi-level TPC command.	transmitter and the receiver; wherein the processor is configured: to cause the transmitter to transmit an indication to a user equipment (UE) that transmit power command (TPC) accumulation is enabled, to cause the transmitter to transmit, on a single physical channel, scheduling information and power control information that includes a multi-level TPC command, and to cause the receiver to receive, from the UE based on the transmitted scheduling information and the multi-level TPC command, an uplink signal.
10. The UE of claim 9, wherein the multi-level TPC command includes a value selected from a plurality of pre-defined values.	2. The network device of claim 1, wherein the multi-level TPC command has a value selected from a plurality of pre-defined values.
11. The UE of claim 9, wherein the processor is further configured to	3. The network device of claim 1, wherein the uplink signal is received on an uplink shared channel.

transmit the uplink signal on an uplink shared channel.	
12. The UE of claim 9, wherein the network device is one of a Node-B or a base station.	4. The network device of claim 1, wherein the network device is any one of a Node-B or a base station.
19. A method performed by a user equipment (UE) having a transmitter and a receiver, the method comprising: receiving, by the UE, an indication from a network device that transmit power control (TPC) command accumulation is enabled; receiving, by the UE on a single physical channel from the network device, scheduling information and power control information that includes a multi-level TPC command; and transmitting, by the UE to the network device, an uplink signal based on the transmitted scheduling information and the multi-level TPC command.	5. A method performed by a network device, the method comprising: transmitting, by the network device, an indication to a user equipment (UE) that transmit power command (TPC) accumulation is enabled; transmitting, by the network device on a single physical channel, scheduling information and power control information that includes a multi-level TPC command; and receiving, by the network device from the UE based on the transmitted scheduling information and the multi-level TPC command, an uplink signal.
20. The method of claim 19, wherein the multi-level TPC command includes	6. The method of claim 5, wherein the multi-level TPC command has a value

a value selected from a plurality of pre-defined values.	selected from a plurality of pre-defined values.
21. The method of claim 19, wherein transmitting the uplink signal includes transmitting the uplink signal on an uplink shared channel.	7. The method of claim 5, wherein the uplink signal is received on an uplink shared channel.
22. The method of claim 19, wherein the network device is one of a Node-B or a base station.	8. The method of claim 5, wherein the network device is any one of a Node-B or a base station.

7. This is a provisional nonstatutory double patenting rejection because the patentably indistinct claims have not in fact been patented.

Instant Application	Patent No. 9,414,326, Application #14/713,719
9. A user equipment (UE) comprising: a transmitter; a receiver; and a processor operatively coupled to the radio, wherein the processor is configured to cause:	1. A method comprising: transmitting, by a first network device, an indication of a transmission power level of the first network device so that a user equipment (UE) can determine a path loss;

the receiver to receive, from a network device, an indication that transmit power control (TPC) command accumulation is enabled,	transmitting, by the first network device to the UE, an indication of whether accumulation of transmit power control (TPC) commands is enabled;
the receiver to receive, from a network device, on a single physical channel, scheduling information and power control information that includes a multi-level TPC command, and	transmitting, by the first network device on a single channel to the UE, a multilevel TPC command and scheduling information related to a shared uplink channel;
the transmitter to transmit, to the network device, an uplink signal based on the received scheduling information and the multi-level TPC command.	receiving, by the first network device from the UE on the shared uplink channel, an uplink signal, wherein transmission power level of the uplink signal is based on the multilevel TPC command and the path loss determined with the indication of the transmission power level of the first network device; and transmitting, by the first network device to a second network device, data of the uplink signal.

11. The UE of claim 9, wherein the processor is further configured to transmit the uplink signal on an uplink shared channel.	1. transmitting, by the first network device on a single channel to the UE, a multilevel TPC command and scheduling information related to a shared uplink channel; receiving, by the first network device from the UE on the shared uplink channel, an uplink signal, wherein transmission power level of the uplink signal is based on the multilevel TPC command and the path loss determined with the indication of the transmission power level of the first network device; and transmitting, by the first network device to a second network device, data of the uplink signal.
12. The UE of claim 9, wherein the network device is one of a Node-B or a base station.	4. The method of claim 1, wherein the first network device is any one of a Node-B or a base station and the second network device is any one of a controller, a radio network controller (RNC), or a base station controller.

19. A method performed by a user equipment (UE) having a transmitter and a receiver, the method comprising: receiving, by the UE, an indication from a network device that transmit power control (TPC) command accumulation is enabled; receiving, by the UE on a single physical channel from the network device, scheduling information and power control information that includes a multi-level TPC command; and transmitting, by the UE to the network device, an uplink signal based on the transmitted scheduling information and the multi-level TPC command.	5. A wireless system comprising: a first network device configured to transmit an indication of a transmission power level of the first network device so that a user equipment (UE) can determine a path loss; the first network device is further configured to transmit, to the UE, an indication of whether accumulation of transmit power control (TPC) commands is enabled; the first network device is further configured to transmit, on a single channel to the UE, a multilevel TPC command and scheduling information related to a shared uplink channel; the first network device is further configured to receive, from the UE on the shared uplink channel, an uplink signal, wherein transmission power level of the uplink signal is based on the multilevel TPC command and the path loss determined with the

	indication of the transmission power level of the first network device; and the first network device is configured to transmit, to a second network device, data of the uplink signal.
21. The method of claim 19, wherein transmitting the uplink signal includes transmitting the uplink signal on an uplink shared channel.	5..... the first network device is further configured to transmit, on a single channel to the UE, a multilevel TPC command and scheduling information related to a shared uplink channel; the first network device is further configured to receive, from the UE on the shared uplink channel, an uplink signal, wherein transmission power level of the uplink signal is based on the multilevel TPC command and the path loss determined with the
22. The method of claim 19, wherein the network device is one of a Node-B or a base station.	8. The wireless system of claim 5, wherein the first network device is any one of a Node-B or a base station and the second network device is any one of a controller, a radio network

	controller (RNC), or a base station controller.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wesley Kim can be reached on 571-272-7867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access

to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-

272-1000.

/DOMINIC E REGO/
Primary Examiner, Art Unit 2648
Tel 571-272-8132

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/410,614	Anderson, Nicholas W.
	Examiner	Art Unit
	DOMINIC E REGO	2648

CPC - Searched*		
Symbol	Date	Examiner
H04W52/242, H04W52/06, H04W52/221, H04W52/24, H04W52/241, H04W52/243, H04W52/08, H04W52/10, H04W52/12, H04W72/0473, H04W72/1268, H04W72/1289	01/09/2020	DR

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
H04W52/242, H04W52/06, H04W52/221, H04W52/24, H04W52/241, H04W52/243, H04W52/08, H04W52/10, H04W52/12, H04W72/0473, H04W72/1268, H04W72/1289	01/09/2020	DR
EAST, Inventor, and Assignee search	01/09/2020	DR
Updated above search	07/28/2020	DR
Search in iq.ip.com	07/28/2020	DR

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/DOMINIC E REGO/ Primary Examiner, Art Unit 2648	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/410,614	Anderson, Nicholas W.
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	DOMINIC E REGO	2648

/DOMINIC E REGO/ Primary Examiner, Art Unit 2648	

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/410,614	Anderson, Nicholas W.
	Examiner	**Art Unit**
	DOMINIC E REGO	2648

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	01/09/2020	07/28/2020							
	1	✓	-							
	2	✓	-							
	3	✓	-							
	4	✓	-							
	5	✓	-							
	6	✓	-							
	7	✓	-							
	8	✓	-							
	9		✓							
	10		✓							
	11		✓							
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	24		✓							
	25		✓							
	26		✓							
	27		✓							
	28		✓							

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	41	((transmi$6 near2 power near2 control$4 tpc) near2 command$3 with schedul$3 adj4 information).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:31
L2	293	(nicholas near2 anderson).in.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:31
L3	6,681	(intellectual near2 ventures ipwireless wireless near technology northrop near grumman).as.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:33
L4	4	1 and 2	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:34
L5	4	1 and 3	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:34
L6	1,687	(transmi$6 near2 power near2 control$4 tpc) near2 command$3 with schedul$3 adj4 information same shar$3 near2 channel	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:35
L7	3	6 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:37
L8	151	power near7 command$3 with accumulat$3 with enab$4	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:38
L9	17	8 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:38
L10	1,854	(transmi$6 near2 power near2 control$4 tpc) near2 command$3 same schedul$3 near3 information same shar$3 near2 channel	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:40
L11	20,967	(H04W52/06 H04W52/08 H04W52/10 H04W52/12 H04W52/24 H04W52/241	US-PGPUB; USPAT;	OR	ON	2020/07/29 12:41

		H04W52/242 H04W52/221 H04W52/243 H04W72/0473 H04W72/1268 H04W72/1289).cpc.	USOCR; EPO; JPO			
L12	182	10 and 11	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:41
L13	2	12 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:41
L14	111	(power near3 command$3 near6 accumulat$3 with (enab$3 active))	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:43
L15	5	14 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:43
L16	5,271	(transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) with power near4 information with schedul$3 near4 information	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:44
L17	2,450	L16 same ((tpc transmi$6 near3 power near3 control$4) near4 command$3)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:44
L18	1,549	17 same shar$3 near2 channel	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:45
L19	1	18 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:46
L20	2,511	L16 with (tpc transmi$6 near3 power near3 control$4 near4 command$3)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:46
L21	6	L20 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:46
L22	2,554	L16 same (tpc transmi$6 near3 power near3 control$4 near4 command$3)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:46

L23	7	L22 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:46
L24	2,917	(transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) with power adj3 information same schedul$3 adj4 information	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:47
L25	1,480	L24 same (tpc transmi$6 near3 power near3 control$4 near4 command$3)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:47
L26	3	L25 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:47
L27	2,233	(transmi$6 near2 power near2 control$4 tpc) near2 command$3 with schedul$3 adj4 information same channel	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 12:48
L28	5	L27 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 13:06
L29	10	"107371229" "107113147" "103339893" "103339893" "105684516" "103733697" "102714879" "201318455" "201847016753" "105850193" "107347002" "201826864" "2018194436" "20180124822" "2018085428" "20090033477" "20180310257"	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 13:09
L30	0	25 and 29	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/29 13:10
S105	6,676	(intellectual near2 ventures ipwireless wireless near technology northrop near grumman).as.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/27 15:40
S106	293	(nicholas near2 anderson).in.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/27 15:40
S107	13	((obtain$3 attain$3 achiev$3 collect$3 receiv$3 retriev$3 acquir$4 reception) with indicat$3 with (transmi$5 near2	US-PGPUB; USPAT;	OR	ON	2020/07/27 15:44

		power near2 control$4 tpc) near5 command$3 same schedul$3 near5 information).clm.	USOCR; EPO; JPO			
S108	3	S105 and S107	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/27 15:46
S109	3	S106 and S107	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/07/27 15:46
S121	5	"9706500".pn. "9414326".pn. "9055586".pn. "8897828".pn. "10292113".pn.	US-PGPUB; USPAT	OR	ON	2020/07/29 10:54
S122	2	S121 and schedul$3 near2 information.clm.	US-PGPUB; USPAT; DERWENT	OR	ON	2020/07/29 10:55

7/29/2020 1:13:09 PM
C:\Users\drego\Documents\EAST\Workspaces\16410614.wsp

Equivalent of Form PTO/SB/08a (07-09)

Substitute for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Application Number	16/410,614
				Filing Date	May 13, 2019
				First Named Inventor	Nicholas W. ANDERSON
				Art Unit	2648
				Examiner Name	REGO, DOMINIC E
Sheet	1	of	4	Attorney Docket Number	3059.7430007

U.S. PATENT DOCUMENTS

Examiner initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	US1	5,719,583 B1	02-17-1998	Kanai	
	US2	5,887,245 B1	03-23-1999	Lindroth et al.	
	US3	6,085,106 B1	07-04-2000	Sedonaris et al.	
	US4	6,137,993 B1	10-24-2000	Almgren et al.	
	US5	6,442,398 B1	08-27-2002	Padovani et al.	
	US6	8,512,931 B1	01-28-2003	Kim et al.	
	US7	6,597,723 B1	07-22-2003	Zeira et al.	
	US8	6,628,956 B2	09-30-2003	Bark et al.	
	US9	6,823,194 B2	11-23-2004	Haim	
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	US12	7,277,721 B2	10-02-2007	Okumura et al.	
	US13	8,134,994 B2	03-13-2012	Liu et al.	
	US14	5,257,283 A	10-26-1993	Gilhousen et al.	
	US15	8,134,994 B2	03-13-2012	Liu et al.	*English Equivalent of JP 2004-248247
	US16	6,442,398 B1	08-27-2002	Padovani et al.	
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	US18	6,804,512 B1	10-12-2004	Baker et al.	
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	FP1	EP 1071227 A2	01-24-2001	Usuda et al.		
	FP2	EP 1176739 A1	01-30-2002	Hayashi et al.		
	FP3	EP 1367740 A1	12-03-2003	Zeira et al.		
	FP4	GB 2350522 A1	11-29-2000	Hulbert et al.		
	FP5	JP 2004040187 A2	02-05-2004	Miya et al.		
	FP6	WO 1996/31009 A1	10-03-1996	Otten		
	FP7	WO 1999/07105 A2	02-11-1999	Larsen et al.		
	FP8	WO 2000/57574 A1	09-28-2000	Zeira et al.		

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	First Named Inventor	Nicholas W. ANDERSON
	Art Unit	2648
	Examiner Name	REGO, DOMINIC E
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	US21	2003/0103530 A1	06-05-2003	Durastante	
	US22	2003/0134655 A1	07-17-2003	Chen et al.	
	US23	2004/0137860 A1	07-15-2004	Oh et al.	
	US24	2004/0141483 A1	07-22-2004	Zeira et al.	
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	US26	2004/0171387 A1	09-02-2004	Miyoshi et al.	
	US27	2004/0190485 A1	09-30-2004	Khan	*Corresponds to JP 2004-289842
	US28	2004/0203987 A1	10-14-2004	Butala	
	US29	2005/0003846 A1	01-06-2005	Anderson	
	US30	2005/0025056 A1	02-03-2005	Chen et al.	
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	US33	2005/0136961 A1	06-23-2005	Simonsson et al.	
	US34	2005/0176455 A1	08-11-2005	Krishnan et al.	
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	US39	2012/0113808 A1	05-05-2012	Washburn	
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	FP9	WO 2001/08322 A1	02-01-2001	Simonsson et al.		
	FP10	WO 2001/84740 A2	11-08-2001	Zeira et al		
	FP11	WO 2003/010903 A1	02-06-2003	Okumura et al.		
	FP12	WO 2003/036816 A1	05-01-2003	Anderson		
	FP13	CN 1159720 A	09-17-1997	Qualcomm, Inc.	*Abstract Translation provided	
	FP14	WO 91/07037 A1	05-16-1991	Qualcomm, Inc.	*English Equivalent of CN 1159720	

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				Filing Date	May 13, 2019
				First Named Inventor	Nicholas W. ANDERSON
				Art Unit	2648
				Examiner Name	REGO, DOMINIC E
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	US44	7,493,133 B2	02-17-2009	Krishnan et al.	
	US45	8,897,828 B2	11-25-2014	Anderson	
	US46	2004/0219919 A1	11-04-2004	Whinnett et al.	
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	FP15	JP 2004248247 A	02-09-2004	Lucent Technol Inc.	*English Translation of Abstract. US 8,134,994 is the English Equivalent	
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				Art Unit	2648
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	FP17	CN 1128515 C	11-19-2003	Samsung Electronics Co. Ltd.	English Abstract provided. US 6,512,931 is the English Equivalent	
	FP18	CN 1343400 A	04-03-2002	InterDigital Tech Corp	English Abstract provided. WO 00/57574 is the English Equivalent	
	FP19	WO 00/57574 A1	09-28-2000	Zeira et al.	*English Equivalent of CN1343400	
	FP20	WO 97/49197	12-24-1997	Nokia Mobile Phones Ltd.		

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				Filing Date	May 13, 2019
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				Art Unit	2648
				Examiner Name	REGO, DOMINIC E
Sheet	1	of	13	Attorney Docket Number	3059.7430007

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T[2]
	NPL1	"Recommendation ITU-R M. 1225: Guidelines for Evaluation of Radio Transmission Technologies for IMT-2000," International Telecommunication Union/ITU Radiocommunication Sector, January 1, 1997, Rec. ITU-R M.1225, pp. 1-61.	
	NPL2	Communication pursuant to Article 94(3) EPC from European Patent Application No. 05 801 370.7-1246 dated December 30, 2009.	
	NPL3	European Search Report Dated December 2, 2010 from European Application No. 10185576.5- 1246.	
	NPL4	Great Britain Search Report mailed May 14, 2002, for Great Britain Application No. 0125504.1 filed October 24, 2001, 1 page.	
	NPL5	International Search Report mailed December 22, 2005, for PCT Application No. PCT/EP2005/053931 filed August 10, 2005, 4 pages.	
	NPL6	International Search Report mailed January 21, 2003, for PCT Application No. PCT/GB02/04811 filed October 24, 2002, 3 pages.	
	NPL7	Office Action for Japanese Application No. 2007-525302, issued March 13, 2012 (a copy of the office action and its English machine translation have been provided).	
	NPL8	THIRD GENERATION PARTNERSHIP PROJECT, Technical Specification Group Radio Access Network; Feasibility Study on Uplink Enhancements for UTRA TDD; (Release 6); 3GPP TR 25.804 V6.0.0 (2005-03).	
	NPL9	NON-FINAL REJECTION, U.S. Patent Application No. 13/726,976, dated May 22, 2014.	
	NPL10	OFFICE ACTION, Japanese Patent Application No. 2011-234218, dated December 6, 2012.	

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	NPL11	NON-FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated June 18, 2014.	
	NPL12	FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated January 8, 2010.	
	NPL13	NON-FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated March 31, 2009.	
	NPL14	FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated August 1, 2008.	
	NPL15	REQUIREMENT FOR RESTRICTION/ELECTION, U.S. Patent Application No. 10/917,968, dated March 19, 2008.	
	NPL16	NON-FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated July 2, 2007.	
	NPL17	OFFICE ACTION, Korean Patent Application No. 10-2007-7005478, dated December 21, 2011 with English Translation.	
	NPL18	NOTICE OF ALLOWANCE, Korean Patent Application No. 10-2007-7005478, dated June 7, 2012.	
	NPL19	NOTICE OF ALLOWANCE, Korean Patent Application No. 10-2012-7004514, dated February 22, 2013.	
	NPL20	NOTICE OF ALLOWANCE, Korean Patent Application No. 10-2012-7004519, dated December 26, 2012.	

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	NPL21	NOTICE OF ALLOWANCE, Korean Patent Application No. 10-2012-7004526, dated June 7, 2012.	
	NPL22	NOTICE OF ALLOWANCE, Korean Patent Application No. 10-2012-7020771, dated January 30, 2013.	
	NPL23	NON-FINAL REJECTION, U.S. Patent Application No. 14/713,719, dated June 30, 2015.	
	NPL24	NOTICE OF ALLOWANCE, U.S. Patent Application No. 14/713,719, December 17, 2015.	
	NPL25	NOTICE OF ALLOWANCE, U.S. Patent Application No. 14/713,719, dated March 30, 2016.	
	NPL26	NON-FINAL REJECTION, U.S. Patent Application No. 15/229,906, dated September 15, 2016.	
	NPL27	NOTICE OF ALLOWANCE, U.S. Patent Application No. 15/229,906, dated March 9, 2017.	
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	NPL29	NOTICE OF ALLOWANCE, U.S. Patent Application No. 15/645,523, dated September 4, 2018.	
	NPL30	Petition for *Inter Partes* Review, filed in *T-Mobile USA, Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01773 (P.T.A.B), Paper 1, filed September 21, 2018; 77 pages.	

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				Art Unit	2648
				Examiner Name	REGO, DOMINIC E
Sheet	4	of	13	Attorney Docket Number	3059.7430007

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T[2]
	NPL31	Declaration of Dr. Martin G. Walker, filed in *T-Mobile USA, Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01773 (P.T.A.B), Exhibit 1002, filed September 21, 2018; 123 pages.	
	NPL32	Curriculum Vitae of Dr. Martin G. Walker, filed in *T-Mobile USA, Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01773 (P.T.A.B), Exhibit 1003, filed September 21, 2018; 27 pages.	
	NPL33	Prosecution File History of U.S. Patent Application No. 10/917,968, filed in *T-Mobile USA, Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01773 (P.T.A.B), Exhibit 1008, filed September 21, 2018; 1,096 pages.	
	NPL34	Petition for *Inter Partes* Review, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Paper 2, filed September 14, 2018; 75 pages.	
	NPL35	Prosecution File History of U.S. Patent Application No. 10/917,968, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1002, filed September 14, 2018; 1100 pages.	
	NPL36	Declaration of Paul S. Min, Ph.D., filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1003, filed September 14, 2018; 108 pages.	
	NPL37	Curriculum Vitae of Paul S. Min, Ph.D., filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1004, filed September 14, 2018; 20 pages.	
	NPL38	3GPP TSG RAN WG1#3 TDoc R1-99151, "Adaptive Step Power Control (ASPC)" by Panasonic (Matsushita Communication Industrial Co., Ltd.), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1007, filed September 14, 2018; 11 pages.	
	NPL39	"UMTS Networks Architecture, Mobility and Services," published in 2001 by John Wiley & Sons, Ltd. ("UMTS Textbook"), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1008, filed September 14, 2018; 76 pages.	
	NPL40	3GPP TSG RAN WG1 Ad Hoc TDoc R1-040665, "Draft Agenda" by RAN WG1 Chairman, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1009, filed September 14, 2018; 2 pages.	

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	NPL41	3GPP TSG RAN WG1 Ad Hoc TDoc R1-040705, "Scheduling Schemes for EDCH" by Lucent, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1010, filed September 14, 2018; 3 pages.	
	NPL42	3GPP TSG RAN WG1 Ad Hoc TDoc R1-040706, "SHO Support for E-DCH" by Lucent, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1011, filed September 14, 2018; 3 pages.	
	NPL43	3GPP TSG RAN WG1 Ad Hoc TDoc R1-040739, "Per-Cell, PerUE, Per-MAC-d Flow basis Scheduling Signaling in Enhanced Uplink" by NEC, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1012, filed September 14, 2018; 6 pages.	
	NPL44	3GPP TSG RAN WG1 Ad Hoc TDoc R1-040746, "Requirements for UL Signalling" by Nokia, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1013, filed September 14, 2018; 3 pages.	
	NPL45	3GPP TR25.804 V0.2.1 (2004-05), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Feasibility Study on Uplink Enhancements for UTRA TDD; (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1014, filed September 14, 2018; 29 pages.	
	NPL46	3GPP TR 25.896 V6.0.0 (2004-03), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Feasibility Study for Enhanced Uplink for UTRA FDD (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1015, filed September 14, 2018; 179 pages.	
	NPL47	3GPP TR 21.900 V6.2 (2004-06), 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Technical Specification Group working methods (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1016, filed September 14, 2018; 33 pages.	
	NPL48	R1-99151 Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1017, filed September 14, 2018; 3 pages.	
	NPL49	25.302 Specs Listing, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1018, filed September 14, 2018; 2 pages.	
	NPL50	25.302 Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1019, filed September 14, 2018; 1 pages.	

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	NPL51	25.302 Archived Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1020, filed September 14, 2018; 2 pages.	
	NPL52	25.221 Specs Listing, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1021 (appears to a duplicate of Exhibit 1024), filed September 14, 2018; 2 pages.	
	NPL53	25.221 Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1022 (appears to be a duplicate of Exhibit 1025), filed September 14, 2018; 1 pages.	
	NPL54	25.221 Archived Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1023, filed September 14, 2018; 2 pages.	
	NPL55	25.211 Spec Listing, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1024, filed September 14, 2018; 2 pages.	
	NPL56	25.211 Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1025, filed September 14, 2018; 1 pages.	
	NPL57	25.211 Archived Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1026, filed September 14, 2018; 2 pages.	
	NPL58	3GPP TS 25.224 V6.0.0 (2003-12), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Physical layer procedures (TDD) (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1027, filed September 14, 2018; 46 pages.	
	NPL59	3GPP TS 25.225 V6.0.0 (2003-12), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Physical layer – Measurements (TDD) (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1028, filed September 14, 2018; 23 pages.	
	NPL60	3GPP TS 25.302 V6.1.0 (2004-03), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Services provided by the physical layer (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1051, filed September 14, 2018; 65 pages.	

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	NPL61	3GPP TS 25.221 V6.1.0 (2004-06), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Physical channels and mapping of transport channels onto physical channels (TDD) (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1052, filed September 14, 2018; 97 pages.	
	NPL62	3GPP TS 25.211 V6.1.0 (2004-06), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Physical channels and mapping of transport channels onto physical channels (FDD) (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1053, filed September 14, 2018; 51 pages.	
	NPL63	3GPP FAQs, 3GPP: A Global Initiative, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1054, filed September 14, 2018; 11 pages.	
	NPL64	Delegates Corner, 3GPP: A Global Initiative, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1055, filed September 14, 2018; 6 pages.	
	NPL65	3GPP TSG RAN WG1 #28 TDoc R1-02-1166, "Comments on Proposals to Restrict the OFDM Study Item to FDD Only" by IPWireless, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1056, filed September 14, 2018; 3 pages.	
	NPL66	3GPP TSG RAN WG1 Meeting #35 TDoc R1-031163, "[DRAFT r1] Report of 3GPP TSG RAN WG1 #33 (New York, NY, USA, 25 – 29 August, 2003)" by WG1 Secretary, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1057, filed September 14, 2018; 62 pages.	
	NPL67	3GPP TSG RAN Meeting #23 TDoc RP-040130, "Proposed Work Item on Optimisation of Channelisation Code Utilisation for TDD" by IPWireless, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1058, filed September 14, 2018; 4 pages.	
	NPL68	Petition for *Inter Partes* Review, filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Paper 2, filed September 7, 2018; 83 pages.	
	NPL69	Curriculum Vitae of Dr. Wayne Stark, filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1002, filed September 7, 2018; 30 pages.	
	NPL70	Harri Holma & Antti Toskala, WCDMA for UMTS: Radio Access for Third Generation Mobile Communications (2d ed. 2002), filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1007, filed September 7, 2018; 42 pages.	

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	NPL71	Prosecution File History of U.S. Patent Application No. 10/917,968, filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1010, filed September 7, 2018; 1,100 pages.	
	NPL72	Shin & Zeira et al., "Pathloss-Aided Closed Loop Transmit Power Control for 3G UTRA TDD," IEEE (2003), filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1014, filed September 7, 2018; 37 pages.	
	NPL73	Prabhakar Chitrapu, Wideband TDD: WCDMA for the Unpaired Spectrum (2004), filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1015, filed September 7, 2018; 20 pages.	
	NPL74	Newton's Telecom Dictionary (18th ed. 2002), filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1016, filed September 7, 2018; 7 pages.	
	NPL75	IEEE Standard Dictionary of Electrical and Electronics Terms (4th ed. 1988), filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1017, filed September 7, 2018; 5 pages.	
	NPL76	Merriam-Webster's Collegiate Dictionary (1993), filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1018, filed September 7, 2018; 4 pages.	
	NPL77	Declaration of Dr. Sylvia Hall-Ellis, Ph.D., filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1019, filed September 7, 2018; 97 pages.	
	NPL78	Complaint [1], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed September 21, 2017; 43 pages.	
	NPL79	The T-Mobile and Sprint Defendants' Motion to Dismiss [20], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed December 7, 2017; 36 pages.	
	NPL80	Ericsson's Motion to Dismiss [22], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed December 7, 2017; 15 pages.	

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	NPL81	Defendants' T-Mobile UAS, Inc. and T-Mobile US, INC. Notice of Joinder [27], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed December 7, 2017; 2 pages.	
	NPL82	Nokia of America Corporation's Answer and Affirmative Defenses [Null], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed April 12, 2018; 57 pages.	
	NPL83	Order Denying Defendants' Motion to Dismiss [60], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed September 18, 2018; 8 pages.	
	NPL84	Order and Opinion on Deffendants' Motions to Dismiss [62], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed September 24, 2018; 19 pages.	
	NPL85	Complaint [1], filed by Intellectual Ventures II, LLC, filed in Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al., Case No. TXED-2-17-cv-00662, filed September 21, 2017; 44 pages.	
	NPL86	T-Mobile and Sprint Defendants' Motion to Dismiss [26], filed in Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al., Case No. TXED-2-17-cv-00662, filed December 7, 2017; 36 pages.	
	NPL87	Ericsson's Motion to Dismiss [28], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed December 7, 2017; 15 pages.	
	NPL88	Defendant Alcatel-Lucent USA, Inc.'s Answer and Affirmative Defense [33], filed by Intellectual Ventures II, LLC, filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed December 7, 2017; 58 pages.	
	NPL89	Intellectual Ventures II LLC's Answer to Alcatel-Lucent USA, Inc.'s Counterclaims [54], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed December 29, 2017; 7 pages.	
	NPL90	Order [115], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed April 2, 2018; 1 pages.	

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	NPL91	Nokia of America Corporation's Answer and Affirmative Defense [118], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed April 12, 2018; 57 pages.	
	NPL92	Plaintiff Intellectual Ventures II LLC's Answer to Nokia of America [120], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed April 12, 2018; 7 pages.	
	NPL93	Plaintiff Intellectual Ventures' Opening Supplemental Brief [126], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed April 24, 2018; 21 pages.	
	NPL94	The T-Mobile and Sprint Defendants' Response to Plaintiff Intellectual Ventures' Opening Supplemental Brief [134], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed May 15, 2018; 22 pages.	
	NPL95	The T-Mobile and Sprint Defendants' Sur-Reply to Plaintiff [139], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed May 29, 2018; 10 pages.	
	NPL96	Plaintiff Intellectual Ventures II LLC's Notice of Supplemental Authority [141], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed June 5, 2018; 4 pages.	
	NPL97	The T-Mobile and Sprint Defendants' Response to IV's Notice of Supplemental Authority [143], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, June 7, 2018; 5 pages.	
	NPL98	Ericsson's Sur-Sur-reply [144], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed June 11, 2018; 6 pages.	
	NPL99	Defendants' Unopposed Motion for Leave to Amend Invalidity Contentions [153], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, June 28, 2018; 6 pages.	
	NPL100	The T-Mobile and Sprint Defendants' Notice of Supplemental Authority [154], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed June 29, 2018; 4 pages.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Application Number	16/410,614
				Filing Date	May 13, 2019
				First Named Inventor	Nicholas W. ANDERSON
				Art Unit	2648
				Examiner Name	REGO, DOMINIC E
Sheet	11	of	13	Attorney Docket Number	3059.7430007

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume number, publisher, city and/or country where published	T[2]
	NPL101	Order [157], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed June 29, 2018; 1 page.	
	NPL102	Plaintiff Intellectual Ventures II LLC's Response to the T-Mobile and Sprint Defendants' Notice of Supplemental Authority [160], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed July 5, 2018; 4 pages.	
	NPL103	Plaintiff Intellectual Ventures II LLC's Unopposed Motion For Leave to Amend Infringement Contentions [161], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed July 9, 2018; 4 pages.	
	NPL104	Order [163], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed July 10, 2018; 1 page.	
	NPL105	P.R. 4-3 Joint Claim Construction and Prehearing Statement [175], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed August 10, 2018; 7 pages.	
	NPL106	Joint Motion for Leave to Amend P.R. 4-3 Joint Claim Construction and Prehearing Statement [176], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 10, 2018; 7 pages.	
	NPL107	Order Granting Joint Motion for Leave to Amend P.R. 4-3 [177], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 12, 2018; 2 pages.	
	NPL108	Plaintiff Intellectual Ventures II LLC's Opening Claim Construction Brief [180], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 14, 2018; 29 pages.	
	NPL109	Order Denying Deffendants' Motions to Dismiss [183], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 18, 2018; 8 pages.	
	NPL110	Order and Opinion on Deffendants' Motion to Dismiss [189], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 24, 2018; 19 pages.	

Examiner Signature	/DOMINIC E REGO/	Date Considered	07/28/2020

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
[1] Applicant's unique citation designation number (optional). [2] Applicant is to place a check mark here if English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.E.R/

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Equivalent of Form PTO/SB/08b (7-09)

Substitute for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Application Number	16/410,614
				Filing Date	May 13, 2019
				First Named Inventor	Nicholas W. ANDERSON
				Art Unit	2648
				Examiner Name	REGO, DOMINIC E
Sheet	12	of	13	Attorney Docket Number	3059.7430007

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume number, publisher, city and/or country where published	T[2]
	NPL111	Defendants' Responsive Claim Construction Brief [194], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 3, 2018; 36 pages.	
	NPL112	Ericsson's Answer to IV's Complaint [201], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 10, 2018; 62 pages.	
	NPL113	Ericsson's Answer to IV's Complaint [202], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 10, 2018; 56 pages.	
	NPL114	Plaintiff's Reply Claim Construction Brief [207], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 15, 2018; 14 pages.	
	NPL115	Sprint's Sealed Answer, Affirmative Defenses, and Counterclaims [208], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 17, 2018; 54 pages.	
	NPL116	T-Mobile USA, Inc., and T-Mobile US, Inc.'s [redacted] Answer and Counterclaims to IV's Complaint [209], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 17, 2018; 57 pages.	
	NPL117	P.R. 4-5 Joint Claim Construction Chart [210], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 17, 2018; 33 pages.	
	NPL118	Docket History, *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed September 21, 2017; 3 pages.	
	NPL119	Docket History, *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 21, 2017; 11 pages.	
	NPL120	Updated Docket History, *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed September 21, 2017, dismissed June 24, 2019; 5 pages.	

Examiner Signature	/DOMINIC E REGO/	Date Considered	07/28/2020

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[1] Applicant's unique citation designation number (optional). [2] Applicant is to place a check mark here if English language Translation is attached.

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P

Equivalent of Form PTO/SB/08b (7-09)

Substitute for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Application Number	16/410,614
				Filing Date	May 13, 2019
				First Named Inventor	Nicholas W. ANDERSON
				Art Unit	2648
				Examiner Name	REGO, DOMINIC E
Sheet	13	of	13	Attorney Docket Number	3059.7430007

	NPL121	Updated Docket History, *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 21, 2017, dismissed June 24, 2019; 32 pages.	

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Examiner Signature	/DOMINIC E REGO/	Date Considered	07/28/2020

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
[1] Applicant's unique citation designation number (optional). [2] Applicant is to place a check mark here if English language Translation is attached.

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P

PTO/SB/06 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/410,614	Filing Date 05/13/2019	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $460 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	05/08/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0		x $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/VINCENT S BUTLER/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Nicholas W. ANDERSON	Confirmation No.: 9059
Applicant: Intellectual Ventures II LLC	Art Unit: 2648
Application No.: 16/410,614	Examiner: REGO, Dominic E.
Filing Date: May 13, 2019	Atty. Docket: 3059.7430007

Title: **Power Control in a Wireless Network**

Amendment and Reply Under 37 C.F.R. § 1.111

Mail Stop Amendment

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Commissioner:

In reply to the Office Action dated **January 15, 2020**, Applicant submits the following Amendment and Remarks.

Amendments of the Claims are reflected in the listing of claims which begins on page **2** of this paper.

Remarks and Arguments begin on page **5** of this paper.

It is not believed that extensions of time are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any additional fees required to continue prosecution or appeal of this application (including issue fee, fees for net addition of claims or forwarding to appeal) are hereby authorized to be charged to our Deposit Account No. 19-0036.

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1–8. (Cancelled)

9. (New) A user equipment (UE) comprising:

a transmitter;

a receiver; and

a processor operatively coupled to the radio,

wherein the processor is configured to cause:

the receiver to receive, from a network device, an indication that transmit power control (TPC) command accumulation is enabled,

the receiver to receive, from a network device, on a single physical channel, scheduling information and power control information that includes a multi-level TPC command, and

the transmitter to transmit, to the network device, an uplink signal based on the received scheduling information and the multi-level TPC command.

10. (New) The UE of claim 9, wherein the multi-level TPC command includes a value selected from a plurality of pre-defined values.

11. (New) The UE of claim 9, wherein the processor is further configured to transmit the uplink signal on an uplink shared channel.

12. (New) The UE of claim 9, wherein the network device is one of a Node-B or a base station.

13. (New) The UE of claim 9, wherein the multi-level TPC command includes a set of values that includes at least two values up or at least two values down.

14. (New) The UE of claim 9, wherein the network device generates the multi-level TPC command by comparing a measured signal-to-noise-plus-interference ratio (SNIR) with an SNIR target value.

15. (New) The UE of claim 14, wherein the network device generates the SNIR target value based on an error metric of the uplink signal.

16. (New) The UE of claim 9, wherein an interference measurement table stored in the network device is updated based on an uplink interference value measured from the uplink signal.

17. (New) The UE of claim 16, wherein the processor is further configured to cause the receiver to receive interference measurements from the interference measurement table stored in the network device.

18. (New) The UE of claim 9, wherein the processor is further configured to cause the receiver to receive an indication of a beacon power level from the network device.

19. (New) A method performed by a user equipment (UE) having a transmitter and a receiver, the method comprising:

receiving, by the UE, an indication from a network device that transmit power control (TPC) command accumulation is enabled;

receiving, by the UE on a single physical channel from the network device, scheduling information and power control information that includes a multi-level TPC command; and

transmitting, by the UE to the network device, an uplink signal based on the transmitted scheduling information and the multi-level TPC command.

20. (New) The method of claim 19, wherein the multi-level TPC command includes a value selected from a plurality of pre-defined values.

21. (New) The method of claim 19, wherein transmitting the uplink signal includes transmitting the uplink signal on an uplink shared channel.

22. (New) The method of claim 19, wherein the network device is one of a Node-B or a base station.

23. (New) The method of claim 19, wherein the multi-level TPC command includes a set of values that includes at least two values up or at least two values down.

24. (New) The method of claim 19, wherein the network device generates the multi-level TPC command by comparing a measured signal-to-noise-plus-interference ratio (SNIR) with an SNIR target value.

25. (New) The method of claim 24, wherein the network device generates the SNIR target value based on an error metric of the uplink signal.

26. (New) The method of claim 19, wherein an interference measurement table in the network device is updated based on an uplink interference value measured from the uplink signal.

27. (New) The method of claim 26, further comprising:

receiving, by the UE, interference measurements from the interference measurement table stored in the network device.

28. (New) The method of claim 19, further comprising:

receiving, by the UE, an indication of a beacon power level from the network device.

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 9–28 are pending in the application, with claims 9 and 19 being the independent claims. Claims 1–8 are sought to be cancelled without prejudice to or disclaimer of the subject matter therein. No claims are sought to be added. New claims 9–28 are sought to be added. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Double Patenting – Claims 1–8

Claims 1–8 were rejected under a double patenting rejection as being allegedly unpatentable over claims 1–8 of U.S. Patent No. 10,292,113. (Office Action, pp. 2–5).

Applicant has cancelled claims 1–8, thereby rendering the rejection moot.

New Claims 9–28

Newly presented claims 9–28 have been added to provide Applicant with additional scope of protection commensurate with the disclosure. Support for claims 9–28 may be found in various places in the original disclosure, e.g., in FIGs. 2 and 3, at paragraph numbers [0037]–[0039] and [0045]–[0046], and in original claims 1–8.

Applicant respectfully requests entry of these newly presented claims 9–28 and passage through to allowance.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

/Ross G. Hicks, #56,374/

Ross G. Hicks
Attorney for Applicant
Registration No. 56,374

Date: May 8, 2020

1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600

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Electronic Patent Application Fee Transmittal

Application Number:	16410614
Filing Date:	13-May-2019
Title of Invention:	Power Control in a Wireless Network
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Filer:	Ross Gordon Hicks/Lynette Miller
Attorney Docket Number:	3059.7430007

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	200	200
Miscellaneous:				
		Total in USD ($)		**200**

Electronic Acknowledgement Receipt	
EFS ID:	39387143
Application Number:	16410614
International Application Number:	
Confirmation Number:	9059
Title of Invention:	Power Control in a Wireless Network
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Customer Number:	26111
Filer:	Ross Gordon Hicks/Lynette Miller
Filer Authorized By:	Ross Gordon Hicks
Attorney Docket Number:	3059.7430007
Receipt Date:	08-MAY-2020
Filing Date:	13-MAY-2019
Time Stamp:	12:25:24
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$200
RAM confirmation Number	E202058C25458177
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	2020-05-08-Cover-Letter-3059-7430007.pdf	272040 1e4993f101d893b47086659b6df06fd8b31b6fdc	no	1
Warnings:					
Information:					
2	Extension of Time	2020-05-08-EOT-3059-7430007.pdf	110257 22e600721b637be2db6fbf31b5bcf68f2977f89a	no	1
Warnings:					
Information:					
3		2020-05-08-Amendment-Reply-111-3059-7430007.pdf	120106 f8395a3c7680f68e11e4f9d33eb92def58ff6493	yes	6

Multipart Description/PDF files in .zip description

Document Description	Start	End
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	4
Applicant Arguments/Remarks Made in an Amendment	5	6

Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	30328 cb0e20ad662e634019e2ce653bbc5e5a5a67e6ef	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	532731		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

ROSS G. HICKS
DIRECTOR
(202) 772-8578
RHICKS@STERNEKESSLER.COM

May 8, 2020

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Confirmation No. 9059
Art Unit 2648
Attn: Mail Stop Amendment

Re: U.S. Utility Patent Application
Appl. No. 16/410,614; Filing Date: May 13, 2019
For: **Power Control in a Wireless Network**
Inventor: Nicholas W. ANDERSON
Our Ref: 3059.7430007

Commissioner:

Transmitted herewith for appropriate action are the following documents:

1. Online Credit Card Payment Authorization in the amount of $200.00 to cover: $200.00 – Extension of Time Fee (1 month);
2. Petition for Extension of Time Under 37 C.F.R. § 1.136(a); and
3. Amendment and Reply Under 37 C.F.R. § 1.111.

The above-listed documents are filed electronically.

In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Fee payment is provided through online credit card payment. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency and any additional fees required to continue prosecution or appeal of this application (including issue fee, fees for net addition of claims or forwarding to appeal) or credit any overpayment to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

/Ross G. Hicks, #56,374/

Ross G. Hicks
Attorney for Applicant
Registration No. 56,374

RGH/lam
Enclosures

14994081_1.docx

PTO/AIA/22 (03-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)	Docket Number (Optional) 3059.7430007
Application Number 16/410,614	Filed May 13, 2019
For Power Control in a Wireless Network	
Art Unit 2648	Examiner REGO, Dominic E.

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

		Fee	Small Entity Fee	Micro Entity Fee	
☑	One month (37 CFR 1.17(a)(1))	$200	$100	$50	$ 200.00
☐	Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
☐	Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$
☐	Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐	Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 19-0036.

☑ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant.

☑ attorney or agent of record. Registration number 56,374.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Ross G. Hicks, #56,374/	May 8, 2020
Signature	Date
Ross G. Hicks	202-371-2600
Typed or printed name	Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☑ * Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Equivalent of Form PTO/SB/08a (07-09)

Substitute for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Application Number	16/410,614
				Filing Date	May 13, 2019
				First Named Inventor	Nicholas W. ANDERSON
				Art Unit	2648
				Examiner Name	REGO, DOMINIC E
Sheet	1	of	4	Attorney Docket Number	3059.7430007

U.S. PATENT DOCUMENTS

Examiner initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	US1	5,719,583 B1	02-17-1998	Kanai	
	US2	5,887,245 B1	03-23-1999	Lindroth et al.	
	US3	6,085,106 B1	07-04-2000	Sedonaris et al.	
	US4	6,137,993 B1	10-24-2000	Almgren et al.	
	US5	6,442,398 B1	08-27-2002	Padovani et al.	
	US6	8,512,931 B1	01-28-2003	Kim et al.	
	US7	6,597,723 B1	07-22-2003	Zeira et al.	
	US8	6,628,956 B2	09-30-2003	Bark et al.	
	US9	6,823,194 B2	11-23-2004	Haim	
	US10	6,983,166 B2	01-03-2006	Shiu et al.	
	US11	7,190,688 B1	03-13-2007	Kamel et al.	
	US12	7,277,721 B2	10-02-2007	Okumura et al.	
	US13	8,134,994 B2	03-13-2012	Liu et al.	
	US14	5,257,283 A	10-26-1993	Gilhousen et al.	
	US15	8,134,994 B2	03-13-2012	Liu et al.	*English Equivalent of JP 2004-248247
	US16	6,442,398 B1	08-27-2002	Padovani et al.	
	US17	6,512,931 B1	01-28-2003	Kim et al.	*English Equivalent of CN1128515
	US18	6,804,512 B1	10-12-2004	Baker et al.	
	US19	2001/0036823 A1	11-01-2001	Van Lieshout et al.	
	US20	2003/0032411 A1	02-13-2003	Kim et al.	

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	FP1	EP 1071227 A2	01-24-2001	Usuda et al.		
	FP2	EP 1176739 A1	01-30-2002	Hayashi et al.		
	FP3	EP 1367740 A1	12-03-2003	Zeira et al.		
	FP4	GB 2350522 A1	11-29-2000	Hulbert et al.		
	FP5	JP 2004040187 A2	02-05-2004	Miya et al.		
	FP6	WO 1996/31009 A1	10-03-1996	Otten		
	FP7	WO 1999/07105 A2	02-11-1999	Larsen et al.		
	FP8	WO 2000/57574 A1	09-28-2000	Zeira et al.		

Examiner Signature		Date Considered	

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				Art Unit	2648
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	US21	2003/0103530 A1	06-05-2003	Durastante	
	US22	2003/0134655 A1	07-17-2003	Chen et al.	
	US23	2004/0137860 A1	07-15-2004	Oh et al.	
	US24	2004/0141483 A1	07-22-2004	Zeira et al.	
	US25	2004/0162093 A1	08-19-2004	Bevan et al.	
	US26	2004/0171387 A1	09-02-2004	Miyoshi et al.	
	US27	2004/0190485 A1	09-30-2004	Khan	*Corresponds to JP 2004-289842
	US28	2004/0203987 A1	10-14-2004	Butala	
	US29	2005/0003846 A1	01-06-2005	Anderson	
	US30	2005/0025056 A1	02-03-2005	Chen et al.	
	US31	2005/0041673 A1	02-24-2005	Jiang et al.	
	US32	2005/0130690 A1	06-16-2005	Shinozaki	
	US33	2005/0136961 A1	06-23-2005	Simonsson et al.	
	US34	2005/0176455 A1	08-11-2005	Krishnan et al.	
	US35	2005/0207359 A1	09-22-2005	Hwang et al.	
	US36	2007/0081492 A1	04-12-2007	Petrovic et al.	
	US37	2009/0028111 A1	01-29-2009	Chao et al.	
	US38	2005/0073973 A1	04-07-2005	LaRoia et al.	
	US39	2012/0113808 A1	05-05-2012	Washburn	
	US40	2013/0142217 A1	06-06-2013	Lomp	

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	FP9	WO 2001/08322 A1	02-01-2001	Simonsson et al.		
	FP10	WO 2001/84740 A2	11-08-2001	Zeira et al		
	FP11	WO 2003/010903 A1	02-06-2003	Okumura et al.		
	FP12	WO 2003/036816 A1	05-01-2003	Anderson		
	FP13	CN 1159720 A	09-17-1997	Qualcomm, Inc.	*Abstract Translation provided	
	FP14	WO 91/07037 A1	05-16-1991	Qualcomm, Inc.	*English Equivalent of CN 1159720	

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				Art Unit	2648
				Examiner Name	REGO, DOMINIC E
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	US47	2006/0035660	02-16-2006	Anderson	
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	FP15	JP 2004248247 A	02-09-2004	Lucent Technol Inc.	*English Translation of Abstract. US 8,134,994 is the English Equivalent	
	FP16	JP 2004289842 A	10-14-2004	Lucent Technol Inc.	*English Translation of Abstract. US 20040190485 is the English Equivalent	

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	FP17	CN 1128515 C	11-19-2003	Samsung Electronics Co. Ltd.	English Abstract provided. US 6,512,931 is the English Equivalent	
	FP18	CN 1343400 A	04-03-2002	InterDigital Tech Corp	English Abstract provided. WO 00/57574 is the English Equivalent	
	FP19	WO 00/57574 A1	09-28-2000	Zeira et al.	*English Equivalent of CN1343400	
	FP20	WO 97/49197	12-24-1997	Nokia Mobile Phones Ltd.		

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				Art Unit	2648
				Examiner Name	REGO, DOMINIC E
Sheet	1	of	13	Attorney Docket Number	3059.7430007

NON PATENT LITERATURE DOCUMENTS			
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	NPL1	"Recommendation ITU-R M. 1225: Guidelines for Evaluation of Radio Transmission Technologies for IMT-2000," International Telecommunication Union/ITU Radiocommunication Sector, January 1, 1997, Rec. ITU-R M.1225, pp. 1-61.	
	NPL2	Communication pursuant to Article 94(3) EPC from European Patent Application No. 05 801 370.7-1246 dated December 30, 2009.	
	NPL3	European Search Report Dated December 2, 2010 from European Application No. 10185576.5- 1246.	
	NPL4	Great Britain Search Report mailed May 14, 2002, for Great Britain Application No. 0125504.1 filed October 24, 2001, 1 page.	
	NPL5	International Search Report mailed December 22, 2005, for PCT Application No. PCT/EP2005/053931 filed August 10, 2005, 4 pages.	
	NPL6	International Search Report mailed January 21, 2003, for PCT Application No. PCT/GB02/04811 filed October 24, 2002, 3 pages.	
	NPL7	Office Action for Japanese Application No. 2007-525302, issued March 13, 2012 (a copy of the office action and its English machine translation have been provided).	
	NPL8	THIRD GENERATION PARTNERSHIP PROJECT, Technical Specification Group Radio Access Network; Feasibility Study on Uplink Enhancements for UTRA TDD; (Release 6); 3GPP TR 25.804 V6.0.0 (2005-03).	
	NPL9	NON-FINAL REJECTION, U.S. Patent Application No. 13/726,976, dated May 22, 2014.	
	NPL10	OFFICE ACTION, Japanese Patent Application No. 2011-234218, dated December 6, 2012.	

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	NPL11	NON-FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated June 18, 2014.	
	NPL12	FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated January 8, 2010.	
	NPL13	NON-FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated March 31, 2009.	
	NPL14	FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated August 1, 2008.	
	NPL15	REQUIREMENT FOR RESTRICTION/ELECTION, U.S. Patent Application No. 10/917,968, dated March 19, 2008.	
	NPL16	NON-FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated July 2, 2007.	
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	NPL18	NOTICE OF ALLOWANCE, Korean Patent Application No. 10-2007-7005478, dated June 7, 2012.	
	NPL19	NOTICE OF ALLOWANCE, Korean Patent Application No. 10-2012-7004514, dated February 22, 2013.	
	NPL20	NOTICE OF ALLOWANCE, Korean Patent Application No. 10-2012-7004519, dated December 26, 2012.	

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	NPL21	NOTICE OF ALLOWANCE, Korean Patent Application No. 10-2012-7004526, dated June 7, 2012.	
	NPL22	NOTICE OF ALLOWANCE, Korean Patent Application No. 10-2012-7020771, dated January 30, 2013.	
	NPL23	NON-FINAL REJECTION, U.S. Patent Application No. 14/713,719, dated June 30, 2015.	
	NPL24	NOTICE OF ALLOWANCE, U.S. Patent Application No. 14/713,719, December 17, 2015.	
	NPL25	NOTICE OF ALLOWANCE, U.S. Patent Application No. 14/713,719, dated March 30, 2016.	
	NPL26	NON-FINAL REJECTION, U.S. Patent Application No. 15/229,906, dated September 15, 2016.	
	NPL27	NOTICE OF ALLOWANCE, U.S. Patent Application No. 15/229,906, dated March 9, 2017.	
	NPL28	NON-FINAL REJECTION, U.S. Patent Application No. 15/645,523, dated January 16, 2018.	
	NPL29	NOTICE OF ALLOWANCE, U.S. Patent Application No. 15/645,523, dated September 4, 2018.	
	NPL30	Petition for *Inter Partes* Review, filed in *T-Mobile USA, Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01773 (P.T.A.B), Paper 1, filed September 21, 2018; 77 pages.	

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	NPL31	Declaration of Dr. Martin G. Walker, filed in *T-Mobile USA, Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01773 (P.T.A.B), Exhibit 1002, filed September 21, 2018; 123 pages.	
	NPL32	Curriculum Vitae of Dr. Martin G. Walker, filed in *T-Mobile USA, Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01773 (P.T.A.B), Exhibit 1003, filed September 21, 2018; 27 pages.	
	NPL33	Prosecution File History of U.S. Patent Application No. 10/917,968, filed in *T-Mobile USA, Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01773 (P.T.A.B), Exhibit 1008, filed September 21, 2018; 1,096 pages.	
	NPL34	Petition for *Inter Partes* Review, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Paper 2, filed September 14, 2018; 75 pages.	
	NPL35	Prosecution File History of U.S. Patent Application No. 10/917,968, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1002, filed September 14, 2018; 1100 pages.	
	NPL36	Declaration of Paul S. Min, Ph.D., filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1003, filed September 14, 2018; 108 pages.	
	NPL37	Curriculum Vitae of Paul S. Min, Ph.D., filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1004, filed September 14, 2018; 20 pages.	
	NPL38	3GPP TSG RAN WG1#3 TDoc R1-99151, "Adaptive Step Power Control (ASPC)" by Panasonic (Matsushita Communication Industrial Co., Ltd.), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1007, filed September 14, 2018; 11 pages.	
	NPL39	"UMTS Networks Architecture, Mobility and Services," published in 2001 by John Wiley & Sons, Ltd. ("UMTS Textbook"), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1008, filed September 14, 2018; 76 pages.	
	NPL40	3GPP TSG RAN WG1 Ad Hoc TDoc R1-040665, "Draft Agenda" by RAN WG1 Chairman, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1009, filed September 14, 2018; 2 pages.	

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	NPL41	3GPP TSG RAN WG1 Ad Hoc TDoc R1-040705, "Scheduling Schemes for EDCH" by Lucent, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1010, filed September 14, 2018; 3 pages.	
	NPL42	3GPP TSG RAN WG1 Ad Hoc TDoc R1-040706, "SHO Support for E-DCH" by Lucent, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1011, filed September 14, 2018; 3 pages.	
	NPL43	3GPP TSG RAN WG1 Ad Hoc TDoc R1-040739, "Per-Cell, PerUE, Per-MAC-d Flow basis Scheduling Signaling in Enhanced Uplink" by NEC, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1012, filed September 14, 2018; 6 pages.	
	NPL44	3GPP TSG RAN WG1 Ad Hoc TDoc R1-040746, "Requirements for UL Signalling" by Nokia, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1013, filed September 14, 2018; 3 pages.	
	NPL45	3GPP TR25.804 V0.2.1 (2004-05), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Feasibility Study on Uplink Enhancements for UTRA TDD; (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1014, filed September 14, 2018; 29 pages.	
	NPL46	3GPP TR 25.896 V6.0.0 (2004-03), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Feasibility Study for Enhanced Uplink for UTRA FDD (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1015, filed September 14, 2018; 179 pages.	
	NPL47	3GPP TR 21.900 V6.2 (2004-06), 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Technical Specification Group working methods (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1016, filed September 14, 2018; 33 pages.	
	NPL48	R1-99151 Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1017, filed September 14, 2018; 3 pages.	
	NPL49	25.302 Specs Listing, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1018, filed September 14, 2018; 2 pages.	
	NPL50	25.302 Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1019, filed September 14, 2018; 1 pages.	

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Equivalent of Form PTO/SB/08b (7-09)

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				Filing Date	May 13, 2019
				First Named Inventor	Nicholas W. ANDERSON
				Art Unit	2648
				Examiner Name	REGO, DOMINIC E
Sheet	6	of	13	Attorney Docket Number	3059.7430007

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume number, publisher, city and/or country where published	T[2]
	NPL51	25.302 Archived Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1020, filed September 14, 2018; 2 pages.	
	NPL52	25.221 Specs Listing, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1021 (appears to a duplicate of Exhibit 1024), filed September 14, 2018; 2 pages.	
	NPL53	25.221 Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1022 (appears to be a duplicate of Exhibit 1025), filed September 14, 2018; 1 pages.	
	NPL54	25.221 Archived Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1023, filed September 14, 2018; 2 pages.	
	NPL55	25.211 Spec Listing, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1024, filed September 14, 2018; 2 pages.	
	NPL56	25.211 Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1025, filed September 14, 2018; 1 pages.	
	NPL57	25.211 Archived Page, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1026, filed September 14, 2018; 2 pages.	
	NPL58	3GPP TS 25.224 V6.0.0 (2003-12), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Physical layer procedures (TDD) (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1027, filed September 14, 2018; 46 pages.	
	NPL59	3GPP TS 25.225 V6.0.0 (2003-12), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Physical layer – Measurements (TDD) (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1028, filed September 14, 2018; 23 pages.	
	NPL60	3GPP TS 25.302 V6.1.0 (2004-03), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Services provided by the physical layer (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1051, filed September 14, 2018; 65 pages.	

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Sheet	7	of	13	Attorney Docket Number	3059.7430007

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	NPL61	3GPP TS 25.221 V6.1.0 (2004-06), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Physical channels and mapping of transport channels onto physical channels (TDD) (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1052, filed September 14, 2018; 97 pages.	
	NPL62	3GPP TS 25.211 V6.1.0 (2004-06), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Physical channels and mapping of transport channels onto physical channels (FDD) (Release 6), filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1053, filed September 14, 2018; 51 pages.	
	NPL63	3GPP FAQs, 3GPP: A Global Initiative, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1054, filed September 14, 2018; 11 pages.	
	NPL64	Delegates Corner, 3GPP: A Global Initiative, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1055, filed September 14, 2018; 6 pages.	
	NPL65	3GPP TSG RAN WG1 #28 TDoc R1-02-1166, "Comments on Proposals to Restrict the OFDM Study Item to FDD Only" by IPWireless, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1056, filed September 14, 2018; 3 pages.	
	NPL66	3GPP TSG RAN WG1 Meeting #35 TDoc R1-031163, "[DRAFT r1] Report of 3GPP TSG RAN WG1 #33 (New York, NY, USA, 25 – 29 August, 2003)" by WG1 Secretary, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1057, filed September 14, 2018; 62 pages.	
	NPL67	3GPP TSG RAN Meeting #23 TDoc RP-040130, "Proposed Work Item on Optimisation of Channelisation Code Utilisation for TDD" by IPWireless, filed in *Nokia of America Corporation v. Intellectual Ventures II LLC,* Case No. IPR2018-01641 (P.T.A.B), Exhibit 1058, filed September 14, 2018; 4 pages.	
	NPL68	Petition for *Inter Partes* Review, filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Paper 2, filed September 7, 2018; 83 pages.	
	NPL69	Curriculum Vitae of Dr. Wayne Stark, filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1002, filed September 7, 2018; 30 pages.	
	NPL70	Harri Holma & Antti Toskala, WCDMA for UMTS: Radio Access for Third Generation Mobile Communications (2d ed. 2002), filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1007, filed September 7, 2018; 42 pages.	

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	NPL71	Prosecution File History of U.S. Patent Application No. 10/917,968, filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1010, filed September 7, 2018; 1,100 pages.	
	NPL72	Shin & Zeira et al., "Pathloss-Aided Closed Loop Transmit Power Control for 3G UTRA TDD," IEEE (2003), filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1014, filed September 7, 2018; 37 pages.	
	NPL73	Prabhakar Chitrapu, Wideband TDD: WCDMA for the Unpaired Spectrum (2004), filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1015, filed September 7, 2018; 20 pages.	
	NPL74	Newton's Telecom Dictionary (18th ed. 2002), filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1016, filed September 7, 2018; 7 pages.	
	NPL75	IEEE Standard Dictionary of Electrical and Electronics Terms (4th ed. 1988), filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1017, filed September 7, 2018; 5 pages.	
	NPL76	Merriam-Webster's Collegiate Dictionary (1993), filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1018, filed September 7, 2018; 4 pages.	
	NPL77	Declaration of Dr. Sylvia Hall-Ellis, Ph.D., filed in *Ericsson Inc., et al. v. Intellectual Ventures II LLC,* Case No. IPR2018-01694 (P.T.A.B), Exhibit 1019, filed September 7, 2018; 97 pages.	
	NPL78	Complaint [1], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed September 21, 2017; 43 pages.	
	NPL79	The T-Mobile and Sprint Defendants' Motion to Dismiss [20], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed December 7, 2017; 36 pages.	
	NPL80	Ericsson's Motion to Dismiss [22], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed December 7, 2017; 15 pages.	

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	NPL81	Defendants' T-Mobile UAS, Inc. and T-Mobile US, INC. Notice of Joinder [27], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed December 7, 2017; 2 pages.	
	NPL82	Nokia of America Corporation's Answer and Affirmative Defenses [Null], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed April 12, 2018; 57 pages.	
	NPL83	Order Denying Defendants' Motion to Dismiss [60], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed September 18, 2018; 8 pages.	
	NPL84	Order and Opinion on Deffendants' Motions to Dismiss [62], filed in *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed September 24, 2018; 19 pages.	
	NPL85	Complaint [1], filed by Intellectual Ventures II, LLC, filed in Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al., Case No. TXED-2-17-cv-00662, filed September 21, 2017; 44 pages.	
	NPL86	T-Mobile and Sprint Defendants' Motion to Dismiss [26], filed in Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al., Case No. TXED-2-17-cv-00662, filed December 7, 2017; 36 pages.	
	NPL87	Ericsson's Motion to Dismiss [28], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed December 7, 2017; 15 pages.	
	NPL88	Defendant Alcatel-Lucent USA, Inc.'s Answer and Affirmative Defense [33], filed by Intellectual Ventures II, LLC, filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed December 7, 2017; 58 pages.	
	NPL89	Intellectual Ventures II LLC's Answer to Alcatel-Lucent USA, Inc.'s Counterclaims [54], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed December 29, 2017; 7 pages.	
	NPL90	Order [115], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed April 2, 2018; 1 pages.	

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	NPL91	Nokia of America Corporation's Answer and Affirmative Defense [118], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed April 12, 2018; 57 pages.	
	NPL92	Plaintiff Intellectual Ventures II LLC's Answer to Nokia of America [120], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed April 12, 2018; 7 pages.	
	NPL93	Plaintiff Intellectual Ventures' Opening Supplemental Brief [126], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed April 24, 2018; 21 pages.	
	NPL94	The T-Mobile and Sprint Defendants' Response to Plaintiff Intellectual Ventures' Opening Supplemental Brief [134], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed May 15, 2018; 22 pages.	
	NPL95	The T-Mobile and Sprint Defendants' Sur-Reply to Plaintiff [139], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed May 29, 2018; 10 pages.	
	NPL96	Plaintiff Intellectual Ventures II LLC's Notice of Supplemental Authority [141], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed June 5, 2018; 4 pages.	
	NPL97	The T-Mobile and Sprint Defendants' Response to IV's Notice of Supplemental Authority [143], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, June 7, 2018; 5 pages.	
	NPL98	Ericsson's Sur-Sur-reply [144], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed June 11, 2018; 6 pages.	
	NPL99	Defendants' Unopposed Motion for Leave to Amend Invalidity Contentions [153], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, June 28, 2018; 6 pages.	
	NPL100	The T-Mobile and Sprint Defendants' Notice of Supplemental Authority [154], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed June 29, 2018; 4 pages.	

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	NPL101	Order [157], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed June 29, 2018; 1 page.	
	NPL102	Plaintiff Intellectual Ventures II LLC's Response to the T-Mobile and Sprint Defendants' Notice of Supplemental Authority [160], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed July 5, 2018; 4 pages.	
	NPL103	Plaintiff Intellectual Ventures II LLC's Unopposed Motion For Leave to Amend Infringement Contentions [161], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed July 9, 2018; 4 pages.	
	NPL104	Order [163], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed July 10, 2018; 1 page.	
	NPL105	P.R. 4-3 Joint Claim Construction and Prehearing Statement [175], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed August 10, 2018; 7 pages.	
	NPL106	Joint Motion for Leave to Amend P.R. 4-3 Joint Claim Construction and Prehearing Statement [176], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 10, 2018; 7 pages.	
	NPL107	Order Granting Joint Motion for Leave to Amend P.R. 4-3 [177], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 12, 2018; 2 pages.	
	NPL108	Plaintiff Intellectual Ventures II LLC's Opening Claim Construction Brief [180], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 14, 2018; 29 pages.	
	NPL109	Order Denying Deffendants' Motions to Dismiss [183], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 18, 2018; 8 pages.	
	NPL110	Order and Opinion on Deffendants' Motion to Dismiss [189], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 24, 2018; 19 pages.	

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	NPL111	Defendants' Responsive Claim Construction Brief [194], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 3, 2018; 36 pages.	
	NPL112	Ericsson's Answer to IV's Complaint [201], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 10, 2018; 62 pages.	
	NPL113	Ericsson's Answer to IV's Complaint [202], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 10, 2018; 56 pages.	
	NPL114	Plaintiff's Reply Claim Construction Brief [207], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 15, 2018; 14 pages.	
	NPL115	Sprint's Sealed Answer, Affirmative Defenses, and Counterclaims [208], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 17, 2018; 54 pages.	
	NPL116	T-Mobile USA, Inc., and T-Mobile US, Inc.'s [redacted] Answer and Counterclaims to IV's Complaint [209], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 17, 2018; 57 pages.	
	NPL117	P.R. 4-5 Joint Claim Construction Chart [210], filed in *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed October 17, 2018; 33 pages.	
	NPL118	Docket History, *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed September 21, 2017; 3 pages.	
	NPL119	Docket History, *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 21, 2017; 11 pages.	
	NPL120	Updated Docket History, *Intellectual Ventures II LLC v. T-Mobile USA, Inc. f/k/a MetroPCS Communications, Inc. et al*, Case No. TXED-2-17-cv-00661, filed September 21, 2017, dismissed June 24, 2019; 5 pages.	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Applicant's unique citation designation number (optional). [2] Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Application Number	16/410,614
				Filing Date	May 13, 2019
				First Named Inventor	Nicholas W. ANDERSON
				Art Unit	2648
				Examiner Name	REGO, DOMINIC E
Sheet	13	of	13	Attorney Docket Number	3059.7430007

	NPL121	Updated Docket History, *Intellectual Ventures II LLC v. Sprint Spectrum LP d/b/a Sprint PCS et al.*, Case No. TXED-2-17-cv-00662, filed September 21, 2017, dismissed June 24, 2019; 32 pages.	

13172376_1

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
[1] Applicant's unique citation designation number (optional). [2] Applicant is to place a check mark here if English language Translation is attached.

Electronic Patent Application Fee Transmittal	
Application Number:	16410614
Filing Date:	13-May-2019
Title of Invention:	Power Control in a Wireless Network
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Filer:	Ross Gordon Hicks/Joel Greenberg
Attorney Docket Number:	3059.7430007
Filed as Large Entity	
Filing Fees for Utility under 35 USC 111(a)	

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	240	240
		Total in USD ($)		**240**

Electronic Acknowledgement Receipt

EFS ID:	39170251
Application Number:	16410614
International Application Number:	
Confirmation Number:	9059
Title of Invention:	Power Control in a Wireless Network
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Customer Number:	26111
Filer:	Ross Gordon Hicks/Joel Greenberg
Filer Authorized By:	Ross Gordon Hicks
Attorney Docket Number:	3059.7430007
Receipt Date:	15-APR-2020
Filing Date:	13-MAY-2019
Time Stamp:	19:23:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$240
RAM confirmation Number	E20204EJ25070903
Deposit Account	190036
Authorized User	Joel Greenberg
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.21 (Miscellaneous fees and charges)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Non Patent Literature	NPL28_15645523_Non_Final_Rejection_printed.pdf	5638832 5cc9da329847d1b6e8a27f8c5eef12473618 61cf	no	7
Warnings:					
Information:					
2	Non Patent Literature	NPL29_15645523_Notice_of_Allowance_print.pdf	9619406 c710a96e5407d6fa7b74d69bc4412780198 4dc56	no	8
Warnings:					
Information:					
3	Non Patent Literature	NPL120_661_Docket.pdf	149121 c655db0ef419e07ad786b1c090111586c5f6 5526	no	5
Warnings:					
Information:					
4	Non Patent Literature	NPL121_662_Docket.pdf	634488 589ee45b1e476625a8c3252d68af292b91d efe0d	no	32
Warnings:					
Information:					
5		3059_7430007_Information_Disclosure_Statement.pdf	580323 709fa9acb87e39fa82cee51925bbed530dc8 8fce	yes	26

Multipart Description/PDF files in .zip description

Document Description	Start	End
Transmittal Letter	1	2
Transmittal Letter	3	9
Information Disclosure Statement (IDS) Form (SB08)	10	26

Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	30705 5dba51bddc9e22c9ef6cc0f5dee2055680adfb99	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	16652875		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

ROSS G. HICKS
DIRECTOR
(202) 772-8578
RHICKS@STERNEKESSLER.COM

April 15, 2020

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Confirmation No. 9059
Art Unit 2648
Attn: Mail Stop Amendment

Re: U.S. Utility Patent Application
Application No. 16/410,614; Filing Date: May 13, 2019
For: **Power Control in a Wireless Network**
Inventor: Nicholas W. ANDERSON
Our Ref: 3059.7430007

Commissioner:

Transmitted herewith for appropriate action are the following documents:

1. Online Credit Card Payment Authorization in the amount of $**240.00** in payment of the fee under 37 C.F.R. § 1.17(p);

2. Information Disclosure Statement;

3. Form PTO/SB/08a (4 sheets) listing 68 documents (**US1-US48** and **FP1-FP20**);

4. Form PTO/SB/08b (13 sheets) listing 121 documents (**NPL1-NPL121);** and

5. Copies of cited documents (**FP28-FP29** and **NPL120-NPL121**).

In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Fee payment is provided through online credit card payment. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

/Ross G. Hicks, #56,374/

Ross G. Hicks
Attorney for Applicant
Registration No. 56,374

RGH/jrg
Enclosure(s)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Nicholas W. ANDERSON	Confirmation No.: 9059
Applicant: Intellectual Ventures II LLC	Art Unit: 2648
Application No.: 16/410,614	Examiner: REGO, DOMINIC E.
Filing Date: May 13, 2019	Atty. Docket: 3059.7430007

Title: **Power Control in a Wireless Network**

Notice of Concurrent Litigation and Information Disclosure Statement

Mail Stop Amendment

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Commissioner:

The Examiner is hereby notified that U.S. Patent No. 8,897,828 (the '828 patent), which is related to the present application, was involved in two litigations in the United States District Court of the Eastern District of Texas styled *Intellectual Ventures II LLC v. T-Mobile USA, Inc. et al.* (Case No. TXED-2:17-cv-00661) and *Intellectual Ventures II LLC v. Sprint Spectrum L.P. et al.* (Case No. TXED-2:17-cv-00662) (the "Litigations"). Intellectual Ventures II LLC ("Intellectual Ventures II") filed these two complaints in the Litigations on September 21, 2017, alleging patent infringement of a number of patents, including the '828 patent. Both of these Litigations were dismissed on June 24, 2019. The Complaints and Dockets for these Litigations are being submitted herewith as NPL78 and NPL85, and NPL120 and NPL121 respectively. If upon review of the Dockets the Examiner should wish to review any other materials, information or documents from the Litigations, then the Examiner is requested to contact the undersigned.

Applicant further informs the Office of the status of the *inter partes* reviews on the next page, which involved the '828 patent.

Case No.	Patent No.	Date filed	Status	Status Date
IPR2018-01641	8,897,828	Sept. 14, 2018	Terminated	May 3, 2019
IPR2018-01694	8,897,828	Sept. 07, 2018	Terminated	June 17, 2019
IPR2018-01773	8,897,828	Sept. 21, 2018	Terminated	July 2, 2019

Information Disclosure Statement

Listed on accompanying IDS Forms PTO/SB/08a equivalent and/or PTO/SB/08b equivalent are documents that may be considered material to the patentability of this application as defined in 37 C.F.R. §1.56, and in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.97 and 1.98.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicant has listed publication dates on the attached IDS Forms based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicant reserves the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicant has checked the appropriate boxes below.

☐ 1. Statement under 37 C.F.R. 1.704(d). Each item of information contained in this Information Disclosure Statement: (i) was first cited in any communication from a patent office in a counterpart[1] foreign or international application or from the Office; and this communication was not received by any individual designated in Sec. 1.56(c) more than thirty days prior to the filing of this information disclosure statement; OR (ii) is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and this communication was not received by any individual designated in Sec. 1.56(c) more than thirty days prior to the filing of the information disclosure statement.

☐ 2. Filing under 37 C.F.R. § 1.97(b). This Information Disclosure Statement is being filed within three months of the date of filing of a national application other than a continued prosecution application (CPA), OR within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, OR before the mailing date of a first Office Action on the merits OR before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. § 1.114. No statement or fee is required.

---

[1] The term counterpart foreign patent application means that a claim for priority has been made in either the U.S. application or a foreign application based on the other, or that the disclosures of the U.S. and foreign patent applications are substantively identical (e.g., an application filed in the European Patent Office claiming the same U.K. priority as claimed in the U.S. application).

☒ 3. Filing under 37 C.F.R. § 1.97(c). This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection, or Notice of Allowance, or an action that otherwise closes prosecution in the application.

☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).

☒ c. The required fee is provided through online credit card payment authorization in the amount of $240.00 in payment of the fee under 37 C.F.R. § 1.17(p).

☐ 4. Filing under 37 C.F.R. § 1.97(d) This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but on or before payment of the Issue Fee. The required fee is

provided through online credit card payment authorization in the amount of $0.00 in payment of the fee under 37 C.F.R. § 1.17(p); in addition:

☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).

☐ 5. The patent family for one or more foreign language documents submitted herewith includes a United States patent, and other patent, in the English language. Copies of both the particular foreign patent(s) or published foreign patent applications cited in the foreign patent office communication, and that are not already of record in this application, are enclosed. Copies of the related United States or other English language patent or published application from the family list, if not already of record, are listed on the accompanying SB/08A form. For the purposes of a statement under 37 CFR 1.97(e)(1), the United States or

other English language patent or published application are to be construed as being cited by the foreign patent office. MPEP 609.04(b)(V).

☐ 6. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. MPEP 609.04(a)(III).

☐ 7. A concise explanation of the relevance of the non-English language document(s) appears below in accordance with 37 C.F.R. § 1.98(a)(3).

☒ 8. Copies of documents **NPL28-NPL29** and **NPL120-NPL121** are submitted. In accordance with 37 C.F.R. § 1.98(a)(2)(ii), no copies of U.S. patents and patent application publications cited as documents **US1-US48** on the attached IDS Forms are submitted.

☒ 9. Copies of the **FP1-FP20**, **NPL1-NPL27**, and **NPL30-NPL119** documents were cited by or submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No. 15/645,523, filed July 10, 2017, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

☒ 10. It is expected that the examiner will review the prosecution and cited art in the Application Nos. 15/645,523, filed July 10, 2017, now U.S. Patent No. 10,292,113; 15/229,906, filed August 5, 2016, now U.S. Patent 9,706,500; 14/713,719, filed May 15, 2015, now U.S. Patent 9,414,326; 13/727,153, filed December 26, 2012, now U.S. Patent 9,055,586; and 10/917,968, filed August 12, 2004, now U.S. Patent 8,897,828, in accordance with MPEP

2001.06(b), and indicate in the next communication from the office that the art cited in the earlier prosecution history has been reviewed in connection with the present application.

☐ 11. In accordance with the Federal Circuit decision in *Dayco Prods., Inc. v. Total Containment, Inc.* 329 F.3d 1358 (Fed. Cir. 2003), Applicants submit herewith Office Actions from the co-pending U.S. Patent Application No._____, filed _____, as documents _____ to _____. The identification of these Office Actions is not to be construed as a waiver of secrecy as to those applications now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited applications and the art cited therein during examination.

It is respectfully requested that the Examiner initial and return a copy of the enclosed IDS Forms, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

/Ross G. Hicks, #56,374/

Ross G. Hicks
Attorney for Applicant
Registration No. 56,374

Date: April 15, 2020

1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600
13206886_1.docx

Atty. Dkt. No. 3059.7430007

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/410,614	05/13/2019	Nicholas W. Anderson	3059.7430007

CONFIRMATION NO. 9059

26111
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

PUBLICATION NOTICE

OC000000115916314

Title: Power Control in a Wireless Network

Publication No.US-2020-0107271-A1
Publication Date:04/02/2020

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently https://portal.uspto.gov/pair/PublicPair. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/410,614	05/13/2019	Nicholas W. Anderson	3059.7430007	9059

26111 7590 01/15/2020

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER
REGO, DOMINIC E

ART UNIT	PAPER NUMBER
2648	

NOTIFICATION DATE	DELIVERY MODE
01/15/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

e-office@sternekessler.com

Office Action Summary	Application No. 16/410,614	Applicant(s) Anderson, Nicholas W.	
	Examiner DOMINIC E REGO	Art Unit 2648	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 05/13/2019.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-8 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-8 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☑ The drawing(s) filed on 05/13/2019 is/are: a)☑ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

Double Patenting

2. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

3. Claims 1-8 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 10,292,113. Although the conflicting claims are not identical, they are not patentably distinct from each other because Independent claim 1 of the present of application are broader in scope and thus encompass the subject matter already claimed in allowed claim 1 in respectively of US patent application 15/645,523, US Patent No: 10,292,113.

4. This is a provisional nonstatutory double patenting rejection because the patentably indistinct claims have not in fact been patented.

Instant Application	Patent No. 10,292,113, Application #15/645,523

1. A network device comprising: a transmitter; a receiver; a processor operatively coupled to the transmitter and the receiver; and the processor is configured: to cause the transmitter to transmit an indication to a user equipment (UE) that transmit power command (TPC) accumulation is enabled, to cause the transmitter to transmit, on a single physical channel, scheduling information and power control information that includes a multilevel TPC command, and to cause the receiver to receive, from the UE based on the transmitted scheduling information and the multi-level TPC command, an uplink signal.	1. A network device comprising: a transmitter; a receiver; and a processor operatively coupled to the transmitter and the receiver; wherein the processor is configured: to cause the transmitter to transmit an indication to a user equipment (UE) that transmit power command (TPC) accumulation is enabled, to cause the transmitter to transmit, on a single physical channel, scheduling information and power control information that includes a multi-level TPC command, and to cause the receiver to receive, from the UE based on the transmitted scheduling information and the multi-level TPC command, an uplink signal.

2. The network device of claim 1, wherein the multi-level TPC has a value selected from a plurality of pre-defined values.	2. The network device of claim 1, wherein the multi-level TPC command has a value selected from a plurality of pre-defined values.
3. The network device of claim 1, wherein the uplink signal is received on an uplink shared channel.	3. The network device of claim 1, wherein the uplink signal is received on an uplink shared channel.
4. The network device of claim 1, wherein the network device is any one of a Node-B or a base station.	4. The network device of claim 1, wherein the network device is any one of a Node-B or a base station.
5. A method performed by a network device, the method comprising: transmitting, by the network device, an indication to a user equipment (UE) that transmit power command (TPC) accumulation is enabled; transmitting, by the network device on a single physical channel, scheduling information and power control information that includes a multi-level TPC command; and receiving, by the network device from the UE based on the transmitted	5. A method performed by a network device, the method comprising: transmitting, by the network device, an indication to a user equipment (UE) that transmit power command (TPC) accumulation is enabled; transmitting, by the network device on a single physical channel, scheduling information and power control information that includes a multi-level TPC command; and receiving, by the network device from

scheduling information and the multi-level TPC command, an uplink signal.	the UE based on the transmitted scheduling information and the multi-level TPC command, an uplink signal.
6. The method of claim 5, wherein the multi-level TPC has a value selected from a plurality of pre-defined values.	6. The method of claim 5, wherein the multi-level TPC command has a value selected from a plurality of pre-defined values.
7. The method of claim 5, wherein the uplink signal is received on an uplink shared channel.	7. The method of claim 5, wherein the uplink signal is received on an uplink shared channel.
8. The method of claim 5, wherein the network device is any one of a Node-B or a base station.	8. The method of claim 5, wherein the network device is any one of a Node-B or a base station.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wesley Kim can be reached on 571-272-7867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DOMINIC E REGO/
Primary Examiner, Art Unit 2648
Tel 571-272-8132

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/410,614	Anderson, Nicholas W.
	Examiner	Art Unit
	DOMINIC E REGO	2648

CPC - Searched*		
Symbol	Date	Examiner
H04W52/242, H04W52/06, H04W52/221, H04W52/24, H04W52/241, H04W52/243, H04W52/08, H04W52/10, H04W52/12, H04W72/0473, H04W72/1268, H04W72/1289	01/09/2020	DR

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
H04W52/242, H04W52/06, H04W52/221, H04W52/24, H04W52/241, H04W52/243, H04W52/08, H04W52/10, H04W52/12, H04W72/0473, H04W72/1268, H04W72/1289	01/09/2020	DR
EAST, Inventor, and Assignee search	01/09/2020	DR

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/DOMINIC E REGO/ Primary Examiner, Art Unit 2648	

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/410,614	Anderson, Nicholas W.
	Examiner	**Art Unit**
	DOMINIC E REGO	2648

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☐ Claims renumbered in the same order as presented by applicant						☐ CPA	☐ T.D.		☐ R.1.47	
CLAIM		**DATE**								
Final	Original	01/09/2020								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	7	"8897828".pn. "9055586".pn. "9414326".pn. "9706500".pn. "10292113".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 13:39
L2	3	1 and schedul$3.clm.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 13:41
L3	285	(nicholas near2 anderson).in.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:44
L4	155	((transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) with power adj3 information same schedul$3 adj4 information).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:44
L5	1	L3 and L4	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:44
L6	863	(intellectual near2 ventures).as.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:44
L7	1	L6 and L4	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:44
L8	323	((transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) with power near3 information same schedul$3 near4 information).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:44
L9	1	L3 and L8	US-PGPUB;	OR	ON	2020/01/09 14:44

			USPAT; USOCR; EPO; JPO			
L10	1	L6 and L8	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:44
L11	79	(power near3 command$3 near6 accumulat$3 near6 (enab$3 active))	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:45
L12	1	L11 with (transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) near8 power near4 information with schedul$3 near4 information	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:45
L13	100	(power near3 command$3 near6 accumulat$3 with (enab$3 active))	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:45
L14	1	L13 with (transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) near8 power near4 information with schedul$3 near4 information	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:45
L15	4823	(transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) with power near4 information with schedul$3 near4 information	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:45
L16	2283	L15 with (tpc transmi$6 near3 power near3 control$4 near4 command$3)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:45
L17	5	L16 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:45
L18	2324	L15 same (tpc transmi$6 near3 power near3 control$4 near4 command$3)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:45
L19	6	L18 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB;	OR	ON	2020/01/09 14:45

			USPAT; USOCR; EPO; JPO			
L20	2683	(transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) with power adj3 information same schedul$3 adj4 information	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:46
L21	1346	L20 same (tpc transmi$6 near3 power near3 control$4 near4 command$3)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:46
L22	2	L21 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:46
L23	2598	(transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) with power near2 control$4 near3 information same schedul$3 near4 information	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:46
L24	1750	L23 same (tpc transmi$6 near3 power near3 control$4 near4 command$3)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:46
L25	5	L24 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:46
L26	79	(power near3 command$3 near6 accumulat$3 near6 (enab$3 active))	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:46
L27	1	L26 with (transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) near8 power near4 information with schedul$3 near4 information	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:46
L28	100	(power near3 command$3 near6 accumulat$3 with (enab$3 active))	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:48
L29	1	L28 with (transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3	US-PGPUB;	OR	ON	2020/01/09 14:48

		propagat$3 fore$cast$3) near8 power near4 information with schedul$3 near4 information	USPAT; USOCR; EPO; JPO			
L30	4823	(transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) with power near4 information with schedul$3 near4 information	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:48
L31	2283	L30 with (tpc transmi$6 near3 power near3 control$4 near4 command$3)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:48
L32	5	L31 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:48
L33	2683	(transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) with power adj3 information same schedul$3 adj4 information	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:48
L34	1346	L33 same (tpc transmi$6 near3 power near3 control$4 near4 command$3)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:48
L35	2	L34 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:48
L36	67064	(transmi$6 transfer$5 send$3 forward$3 deliver$3 provid$3 broad$cast$3 propagat$3 fore$cast$3) near8 physical near2 channel	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:48
L37	63	L36 with schedul$3 near4 (data information content) same (power near2 control$4 tpc) near2 (information data content)	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:48
L38	1	L37 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:48
L39	9	"107371229" "107113147" "103339893" "103339893" "105684516" "103733697"	US-PGPUB;	OR	ON	2020/01/09 14:49

		"102714879" "201318455" "201847016753" "105850193" "107347002" "201826864" "2018194436" "20180124822" "2018085428" "20090033477" "20180310257"	USPAT; USOCR; EPO; JPO			
L40	82	L33 and (@ad < = "20040812" @rlad < = "20040812" @pd < = "20040812")	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:49
L41	0	L39 and L40	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:49
L42	19133	(H04W52/06 H04W52/08 H04W52/10 H04W52/12 H04W52/24 H04W52/241 H04W52/242 H04W52/221 H04W52/243 H04W72/0473 H04W72/1268 H04W72/1289).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:49
L43	12	L42 and L40	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2020/01/09 14:49

1/ 9/ 2020 4:13:49 PM
C:\ Users\ drego\ Documents\ EAST\ Workspaces\ 15645523.wsp

Bibliographic Data

Application No: 16/410,614

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /DOMINIC E REGO/ (Examiner's Signature) (Initials)

Title: Power Control in a Wireless Network

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
05/13/2019	455	2648	3059.7430007
RULE			

APPLICANTS

Intellectual Ventures II LLC, Wilmington, DE,

INVENTORS

Nicholas W. Anderson Exeter, UNITED KINGDOM

CONTINUING DATA

This application is a CON of 15645523 07/10/2017 PAT 10292113

15645523 is a CON of 15229906 08/05/2016 PAT 9706500

15229906 is a CON of 14713719 05/15/2015 PAT 9414326

14713719 is a CON of 13727153 12/26/2012 PAT 9055586

13727153 is a CON of 10917968 08/12/2004 PAT 8897828

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

05/22/2019

STATE OR COUNTRY

UNITED KINGDOM

ADDRESS

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1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005
UNITED STATES

FILING FEE RECEIVED

$4,880

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 16/410,614

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	300
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	660
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	760
TOTAL CLAIMS (37 CFR 1.16(i))	8 minus 20 =	*			OR	x 100 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*				x 460 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1720

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)	OR	RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/410,614	05/13/2019	2649	1880	3059.7430007	8	2

CONFIRMATION NO. 9059

UPDATED FILING RECEIPT

26111
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

OC000000113568898

Date Mailed: 12/27/2019

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

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Inventor(s)

Nicholas W. Anderson, Exeter, UNITED KINGDOM;

Applicant(s)

Intellectual Ventures II LLC, Wilmington, DE;

Assignment For Published Patent Application

Intellectual Ventures II LLC, Wilmington, DE

Power of Attorney: The patent practitioners associated with Customer Number 26111

Domestic Priority data as claimed by applicant

This application is a CON of 15/645,523 07/10/2017 PAT 10292113
which is a CON of 15/229,906 08/05/2016 PAT 9706500
which is a CON of 14/713,719 05/15/2015 PAT 9414326
which is a CON of 13/727,153 12/26/2012 PAT 9055586
which is a CON of 10/917,968 08/12/2004 PAT 8897828

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

P

Ex.1002 / Page 169 of 231
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Permission to Access Search Results: Yes

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If Required, Foreign Filing License Granted: 05/22/2019
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/410,614**
Projected Publication Date: 04/02/2020
Non-Publication Request: No
Early Publication Request: No
Title

Power Control in a Wireless Network

Preliminary Class

455

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/410,614	05/13/2019	Nicholas W. Anderson	3059-7430007

CONFIRMATION NO. 9059

26111
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005
UNITED STATES OF AMERICA

FORMALITIES LETTER



Date Mailed: 05/23/2019

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
- The application search fee must be submitted.
- The application examination fee must be submitted.
- Surcharge as set forth in 37 CFR 1.16(f) must be submitted.
  The surcharge is due for any one of:
  - late submission of the basic filing fee, search fee, or examination fee,
  - late submission of inventor's oath or declaration,
  - filing an application that does not contain at least one claim on filing, or
  - submission of an application filed by reference to a previously filed application.

SUMMARY OF FEES DUE:

The fee(s) required within **TWO MONTHS** from the date of this Notice to avoid abandonment is/are itemized below. No entity status discount is in effect. If applicant is qualified for small entity status, a written assertion of small entity status must be submitted to establish small entity status. (See 37 CFR 1.27). If applicant is qualified for micro entity status, an acceptable Certification of Micro Entity Status must be submitted to establish micro entity status. (See 37 CFR 1.29 and forms PTO/SB/15A and 15B.)

- $ **300** basic filing fee.
- $ **160** surcharge.
- $ **660** search fee.
- $ **760** examination fee.
- $(**0**) previous unapplied payment amount.
- $ **1880** TOTAL FEE BALANCE DUE.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

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Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice". https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at 1-866-217-9197 or visit our website at http://www.uspto.gov/ebc.

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Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/amanalac/

Electronic Patent Application Fee Transmittal

Application Number:	16410614
Filing Date:	13-May-2019
Title of Invention:	Power Control in a Wireless Network
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Filer:	Ross Gordon Hicks/Lynette Miller
Attorney Docket Number:	3059.7430007

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	300	300
UTILITY SEARCH FEE	1111	1	660	660
UTILITY EXAMINATION FEE	1311	1	760	760
Pages:				
Claims:				
Miscellaneous-Filing:				
LATE FILING FEE FOR OATH OR DECLARATION	1051	1	160	160
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 5 months with $0 paid	1255	1	3000	3000
Miscellaneous:				
		Total in USD ($)		**4880**

Electronic Acknowledgement Receipt

EFS ID:	38097524
Application Number:	16410614
International Application Number:	
Confirmation Number:	9059
Title of Invention:	Power Control in a Wireless Network
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Customer Number:	26111
Filer:	Ross Gordon Hicks/Ann-Marie Edelin
Filer Authorized By:	Ross Gordon Hicks
Attorney Docket Number:	3059.7430007
Receipt Date:	23-DEC-2019
Filing Date:	13-MAY-2019
Time Stamp:	15:40:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$4880
RAM confirmation Number	E2019BMF40118018
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Response to Pre-Exam Formalities Notice	2019-12-20-Notice-3059-7430007.pdf	1676162 2be6c6833ba83a0fa9db3aaa25817cd45289fd82	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	38935 273f8889d4059a611eca58a77f70c14cb45ce077	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1715097		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/410,614	05/13/2019	Nicholas W. Anderson	3059-7430007

CONFIRMATION NO. 9059

26111
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1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005
UNITED STATES OF AMERICA

FORMALITIES LETTER

OC000000108380338

Date Mailed: 05/23/2019

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

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- The application search fee must be submitted.
- The application examination fee must be submitted.
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  The surcharge is due for any one of:
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  - late submission of inventor's oath or declaration,
  - filing an application that does not contain at least one claim on filing, or
  - submission of an application filed by reference to a previously filed application.

SUMMARY OF FEES DUE:

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- $ **300** basic filing fee.
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/410,614	05/13/2019	2649	0.00	3059-7430007	8	2

CONFIRMATION NO. 9059

FILING RECEIPT

26111
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005
UNITED STATES OF AMERICA



Date Mailed: 05/23/2019

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Nicholas W. Anderson, Exeter, UNITED KINGDOM;

Applicant(s)

Intellectual Ventures II LLC, Wilmington, DE;

Assignment For Published Patent Application

Intellectual Ventures II LLC, Wilmington, DE

Power of Attorney: The patent practitioners associated with Customer Number 26111

Domestic Priority data as claimed by applicant

This application is a CON of 15/645,523 07/10/2017 PAT 10292113
which is a CON of 15/229,906 08/05/2016 PAT 9706500
which is a CON of 14/713,719 05/15/2015 PAT 9414326
which is a CON of 13/727,153 12/26/2012 PAT 9055586
which is a CON of 10/917,968 08/12/2004 PAT 8897828

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

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Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 05/22/2019
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/410,614**
Projected Publication Date: To Be Determined - pending completion of Missing Parts
Non-Publication Request: No
Early Publication Request: No
Title

Power Control in a Wireless Network

Preliminary Class

455

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

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Ex.1002 / Page 184 of 231
TESLA, INC.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 16/410,614

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	300
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	660
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	760
TOTAL CLAIMS (37 CFR 1.16(i))	8 minus 20 =	*			OR	x 100 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*				x 460 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1720

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)	OR	RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 11/30/2014. OMB 0651-0051
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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

[X] I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: **26111**

OR

[ ] I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

[X] The address associated with the above-mentioned Customer Number

OR

[ ] The address associated with Customer Number: **26111**

OR

Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Intellectual Ventures II LLC

[ ] Inventor or Joint Inventor (title not required below)

[ ] Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

[X] Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

[ ] Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature	/Tracy Lemke/	Date (Optional)	7/18/18
Name	Tracy Lemke		
Title	Assistant Company Secretary		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

[X] Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	3059.7430007
	Application Number	
Title of Invention	Power Control in a Wireless Network	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Nicholas	W.	ANDERSON	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Exeter	Country of Residence [i]	GB

Mailing Address of Inventor:

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Address 2	Dunchideock		
City	Exeter	**State/Province**	
Postal Code	EX2 9T2	**Country** [i]	GB

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	26111		
Email Address		Add Email	Remove Email

Application Information:

Title of the Invention	Power Control in a Wireless Network		
Attorney Docket Number	3059.7430007	**Small Entity Status Claimed**	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	4	**Suggested Figure for Publication (if any)**	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	3059.7430007
	Application Number	
Title of Invention	Power Control in a Wireless Network	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	26111		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	15645523	2017-07-10

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	3059.7430007
	Application Number	
Title of Invention	Power Control in a Wireless Network	

Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15645523	Continuation of	15229906	2016-08-05	9706500	2017-07-11
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15229906	Continuation of	14713719	2015-05-15	9414326	2016-08-09
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14713719	Continuation of	13727153	2012-12-26	9055586	2015-06-09
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13727153	Continuation of	10917968	2004-08-12	8897828	2014-11-25

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

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Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

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Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	3059.7430007
	Application Number	
Title of Invention	Power Control in a Wireless Network	

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	3059.7430007
	Application Number	
Title of Invention	Power Control in a Wireless Network	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

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☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	3059.7430007
	Application Number	
Title of Invention	Power Control in a Wireless Network	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name	Intellectual Ventures II LLC		
Mailing Address Information For Applicant:			
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Address 2			
City	Wilmington	**State/Province**	DE
Country	US	Postal Code	19808
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

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Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☒

Organization Name	Intellectual Ventures II LLC

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1	2711 Centerville Road		
Address 2			
City	Wilmington	**State/Province**	DE
Country i	US	Postal Code	19808
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Ross G. Hicks, #56,374/			Date (YYYY-MM-DD)	2019-05-13
First Name	Ross	Last Name	Hicks	Registration Number	56,374

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The information provided by you in this form will be subject to the following routine uses:

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent CooperationTreaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

ABSTRACT

A network device may select a value of a multi-level transmit power control (TPC) command from a plurality of pre-defined values. The network device may transmit on a single channel an allocation of an uplink resource and the multi-level TPC command.

What is claimed is:

1. A network device comprising:

a transmitter;

a receiver;

a processor operatively coupled to the transmitter and the receiver; and

the processor is configured:

to cause the transmitter to transmit an indication to a user equipment (UE) that transmit power command (TPC) accumulation is enabled,

to cause the transmitter to transmit, on a single physical channel, scheduling information and power control information that includes a multilevel TPC command, and

to cause the receiver to receive, from the UE based on the transmitted scheduling information and the multi-level TPC command, an uplink signal.

2. The network device of claim 1, wherein the multi-level TPC has a value selected from a plurality of pre-defined values.

3. The network device of claim 1, wherein the uplink signal is received on an uplink shared channel.

4. The network device of claim 1, wherein the network device is any one of a Node-B or a base station.

5. A method performed by a network device, the method comprising:

transmitting, by the network device, an indication to a user equipment (UE) that transmit power command (TPC) accumulation is enabled;

transmitting, by the network device on a single physical channel, scheduling information and power control information that includes a multi-level TPC command; and

receiving, by the network device from the UE based on the transmitted scheduling information and the multi-level TPC command, an uplink signal.

6. The method of claim 5, wherein the multi-level TPC has a value selected from a plurality of pre-defined values.

7. The method of claim 5, wherein the uplink signal is received on an uplink shared channel.

8. The method of claim 5, wherein the network device is any one of a Node-B or a base station.

POWER CONTROL IN A WIRELESS NETWORK

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application is a continuation of U.S. Patent Application Serial No. 15/645,523, filed July 10, 2017, which is a continuation of U.S. Patent Application Serial No. 15/229,906, filed August 5, 2016, which is a continuation of U.S. Patent Application Serial No. 14/713,719, filed May 15, 2015, which issued as U.S. Patent No. 9,414,326 on August 9, 2016, which is a continuation of U.S. Patent Application Serial No. 13/727,153, filed December 26, 2012, which issued as U.S. Patent No. 9,055,586 on June 9, 2015, which is a continuation of U.S. Patent Application Serial No. 10/917,9 68, filed August 12, 2004, which issued as U.S. Patent No. 8,897,828 on November 25, 2014, which are both incorporated by reference as if fully set forth.

[0002] This application is related to U.S. Patent Application Serial No. 13/726,976, filed December 26, 2012, which issued as U.S. Patent No. 8,983,522 on March 17, 2015.

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0003] This invention relates to power control in a mobile radio system or wireless communication system, and more particularly, to controlling received power levels in a code division multiple access (CDMA) radio system.

2. Description of the Prior Art

[0004] Typically, radio signals transmitted with increased power result in fewer errors when received than signals transmitted with decreased power. Unfortunately, signals transmitted with excessive power may interfere with the reception of other signals sharing the radio link. Wireless communication systems employ power control schemes to maintain a target error rate of a signal received on a radio link.

[0005] If a received signal includes a rate of errors far above a target error rate, the received signal may result in an undesirable effect on a delivered service. For example, excessive

errors may lead to broken voice during voice calls, low throughput over data links, and glitches in displayed video signals. On the other hand, if the received signal includes a rate of errors well below the target error rate, the mobile radio system is not efficiently using its radio resources. A very low error rate may mean that a signal is transmitted with an excessive level of power and that user could be provided a higher data rate. Alternatively, if the power level of a signal is sufficiently reduced, additional users may be serviced. If data rates are increased, a user may receive a higher level of service. Therefore, if a target error rate for each user is met within a tolerance threshold, a radio resource may be more optimally used.

[0006] A wireless communication system often employ one of either an open loop scheme or a closed loop scheme to control uplink transmit power of a mobile radio. Uplink typically refers to the radio link from a mobile radio to a base station, where as the downlink typically refers to the link from the base station to the mobile radio. A mobile radio is not necessarily mobile and may also be referred to as a mobile, a user, user equipment (UE), a terminal or terminal equipment. A base station may also be referred to as a Node-B.

[0007] The error rate is related to a received signal to noise-plus-interference ratio (SNIR); a higher SNIR generally results in a lower error rate; and conversely, a lower SNIR generally results in a higher error rate. The exact relationship between SNIR and error rate, however, is often a function of several factors including radio channel type and the speed at which a mobile is travelling.

[0008] A target error rate is often reached using a two stage process, whichincludes an outer loop and an inner loop. A first process may operate as an outer loop and may be tasked to adjust a target received SNIR (SNIR Target). This first process tracks changes in the relationship between SNIR and error rate. The outer loop sets an SNIR Target that is generally used several times by the inner loop. Periodically, the outer loop may adjust or update this SNIR Target used by the inner loop. For example, if an actual error rate exceeds a desired error rate, the outer loop may increase the value of the SNIR Target.

[0009] A second process operates as an inner loop and tries to force the link to exhibit the SNIR Target determined by the outer loop. The inner loop may operate by closed loop or by open loop means.

[0010] In the open loop method of the inner loop process, a UE uses an SNIR Target value that is derived by the network and signalled to the UE. The inner loop running in the UE

attempts to maintain the SNIR Target. The UE uses the information signalled to it and monitors the received strength of signals it receives to determine a power level at which it will transmit. Advantageously, this open loop method compensates for fast channel fading by determining the path loss on a per frame bases and by adjusting the transmit power accordingly. Unfortunately, this open loop method is relatively slow at compensating for changes due to interfering signals from other transmitters.

[0011] In the closed loop method of the inner loop process, a closed loop scheme operates to match an SNIR Target. A received SNIR measurement is made by the network on an uplink signal. The SNIR measurement is compared within the network to the SNIR Target value. The inner loop drives the system to match the SNIR Target by issuing transmit power control commands from the network to a UE. The commands instruct the UE to increase or decrease its transmitted power by a predetermined step dB amount. Unfortunately, such closed loop methods demand a very high command update rate to adequately compensate for fast channel fading because of the single-dB-step commands used. At slower update rates, fast channel fading is not tracked adequately since a large number of iterations and long delays are needed to compensate for a change in power that is substantially larger than the dB-step value.

[0012] Both the closed loop scheme and the open loop scheme have their disadvantages. Therefore, an improved method and system are needed that better balances the conflicting goals of reducing errors in a received signal while also reducing interference imposed on signals received at other receivers. An improved method and system are also needed to better reduce the overall residual SNIR fluctuations experienced by each users signal at a receiver.

BRIEF SUMMARY OF THE INVENTION

[0013] Some embodiments provide a method of power control in a radio communications system, the method comprising: determining a path loss of a radio channel between a base station and a remote transceiver; receiving a transmit power control (TPC) command transmitted to the remote transceiver from the base station; and calculating a transmit power level for the remote transceiver based on the path loss and the TPC command.

[0014] Some embodiments provide a method of power control in a radio communications system, the method comprising: receiving a signal at a second transceiver transmitted from a

first transceiver; measuring a power level of the received signal; receiving a transmit power control (TPC) command at the second transceiver transmitted from the first transceiver; and calculating a transmit power level for the second transceiver based on the power level of the received signal and the TPC command.

[0015] Some embodiments provide a method of uplink power control in a CDMA radio communications system, the method comprising: receiving an uplink signal; determining an error metric of the uplink signal; updating an SNIR target based on the error metric; measuring a received SNIR of the uplink signal; comparing the measured received SNIR with the SNIR target; assigning a first value to a step indicator if the measured received SNIR is greater than the SNIR target, and assigning a second value to a step indicator if the measured received SNIR is less than the SNIR target; transmitting a transmit power control (TPC) command instructing a transmitter to adjust an uplink transmit power level based on the step indicator; receiving the TPC command including the step indicator; accumulating the step indicator value; broadcasting a downlink signal including an indication of a downlink power level, wherein the signal is transmitted at the downlink power level; measuring the received power of the downlink signal; and setting a transmit power level base on the received power level, the indication of the downlink power level, and the accumulated step indicator value.

[0016] Some embodiments provide a method comprising: measuring a power level of a received signal; receiving a transmit power control (TPC) command; and calculating a transmit power level based on the power level of the received signal and the TPC command.

[0017] Some embodiments provide a radio comprising: a receiver including an output to provide a measured received power level; an accumulator having an input for accepting step increase and decrease instructions and an output providing a sum of past step instructions; a power level setting circuit coupled to the accumulator output and coupled to the receiver output, wherein the power level setting circuit sets a transmit power bases on the accumulator output and the measured received power level; and a transmitter, wherein the transmitter transmits a signal at the set transmit power.

[0018] Other features and aspects of the invention will become apparent from the following detailed description, taken in conjunction with the accompanying drawings which illustrate, by way of example, the features in accordance with embodiments of the invention. The

summary is not intended to limit the scope of the invention, which is defined solely by the claims attached hereto.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] FIGURE 1 shows a block diagram of a wireless communication system.

[0020] FIGURE 2 illustrates a wireless communication system using an open loop scheme.

[0021] FIGURE 3 illustrates a wireless communication system using a closed loop scheme.

[0022] FIGURE 4 illustrates a wireless communication system using elements of both open loop and closed loop schemes, in accordance with the present invention.

[0023] FIGURES 5A, 5B and 5C each illustrate a simulated probability density function of the received SNIR in the network.

DETAILED DESCRIPTION OF THE INVENTION

[0024] In the following description, reference is made to the accompanying drawings which illustrate several embodiments of the present invention. It is understood that other embodiments may be utilized and mechanical, compositional, structural, electrical and operational changes may be made without departing from the spirit and scope of the present disclosure. The following detailed description is not to be taken in a limiting sense, and the scope of the embodiments of the present invention is defined by the claims of the issued patent.

[0025] Some portions of the detailed description which follows are presented in terms of procedures, steps, logic blocks, processing, and other symbolic representations of operations on data bits that can be performed on computer memory. A procedure, computer executed step, logic block, process etc., are here conceived to be a self-consistent sequence of steps or instructions leading to a desired result. The steps are those utilizing physical manipulations of physical quantities. These quantities can take the form of electrical, magnetic, or radio signals capable of being stored, transferred, combined, compared, and otherwise manipulated in a computer system. These signals may be referred to at times as bits, values, elements, symbols, characters, terms, numbers, or the like. Each step may be performed by hardware, software, firmware, or combinations thereof.

[0026] FIGURE 1 shows a block diagram of a wireless communication system. A network 100 may include one or more base station controllers 110, such as a radio network controller (RNC), and one or more base stations 120 and 130, such as a Node-B, wherein each Node-B is connected to an RNC. The network 100 communicates with one or more users 140, 150 through a channel 160, also referred to as a radio link, created between a base station and a user.

[0027] Two mechanisms are primarily responsible for changes in the SNIR of a signal travelling through a radio link.

[0028] First, changes in the channel affect the SNIR. The instantaneous path loss between a base station and a user may vary as the user changes position or the user's environment changes. Rapid changes may occur as a result of a transmitted signal combining constructively and destructively as the signal travels along multiple paths from a base station and to the user. Additionally, slower changes may occur due to attenuation of the radio waves with increased distance between the base station and the user. Slower changes may also occur due to signal obstruction by buildings, vehicles and hills.

[0029] Second, signals from other transmitters affect the SNIR. For example, signals intended for other mobile radios or other base stations may increase interference in the radio link and thus reduce a received signal's SNIR.

[0030] In Time Division Duplex (TDD) systems, both uplink and downlink share the same carrier frequency. Due to this reciprocity in the links, path loss measurements made on the downlink by a mobile radio may be used estimate the path loss on the uplink. That is, a measured downlink path loss may be used to estimate the uplink path loss. The estimated uplink path loss will be less reliable with the passing of time but may be adequate within a frame period. Therefore, a mobile radio may determine a transmit power level for an uplink transition that compensates for an estimated uplink path loss, thereby providing a received signal to a base station at an expected input power level.

[0031] Downlink path loss measurements may be facilitated by a beacon channel, which is transmitted from a base station at a reference power level. A mobile radio is informed of the actual transmit power level being used by the base station for the beacon channel. In addition to knowing the actual transmit power level of a beacon channel, the mobile radio may measure a received signal power level. By measuring the received signal power level, the

mobile radio can compute a downlink path loss as the difference between the actual transmit power level and the received signal power level. Thus, the mobile radio is able to estimate the uplink path loss in a channel between the base station and the mobile radio and properly set its uplink transmit power level.

[0032] The path loss calculation may be updated as often as a beacon signal is transmitted and received. In a UTRA TDD system in compliance with the third generation partnership project (3GPP) specifications, a beacon signal is transmitted either once or twice every 10 milliseconds (ms). If an uplink transmission follows a beacon transmission within a relatively short period of time, a mobile radio can compensate for the fast fluctuations (fast-fading) in a radio channel. Such is the case for mobiles travelling at slow to moderate speeds if a beacon signal is transmitted either once or twice every 10 ms and the uplink transmissions occur in the intervening period.

[0033] Additionally, a radio channel may be adversely affected by changes in interference levels over time. These temporal interference changes may be accommodated by a base station, measuring and communicating interference levels seen in each uplink timeslot. In a UTRA TDD system, a table having values of the measured interference for each timeslot may be broadcast to all users via a Broadcast Channel (BCH). The broadcasted information may be updated approximately every 16 frames (160 ms) depending upon the system configuration. In other embodiments, a mobile radio may receive this interference table as a signalled message directed to the individual mobile radio.

[0034] The 3GPP specifications describe two separate schemes for power control of uplink channels: an open loop scheme and a closed loop scheme. For example, in 3GPP 3.84 Megachips per second (Mcps) TDD systems, open loop power control is specified for all uplink channels. In 3GPP 1.28 Mcps TDD systems, open loop power control is specified only for physical random access channels (PRACH). Also defined by 3GPP is an implementation of a closed loop power control scheme. For example, see 3GPP recommendations for UTRA TDD systems operating at 1.28 Mcps for non-PRACH uplink channels.

[0035] In a wireless communication system using an open loop scheme, a network and UE use an outer loop to update and signal to the UE an SNIR Target value, thereby influencing the UE's transmit power. The network updates the SNIR Target value to be signalled based

upon an observed error rate on the uplink. Once received, the mobile radio takes into account the signalled SNIR Target value when deriving a transmit power level that it will apply to the next uplink signal transmitted.

[0036] In a 3GPP 3.84 Mcps system incorporating an open loop scheme, a network instructs the UE with an SNIR Target value. The network also signals its beacon transmit power level and may also provide a measure of uplink interference for each timeslot as measured by the network. The UE receives an input signal that is typically a combination of attenuated versions of the network signal, which passed through a radio channel, along with interfering signals from other transmitters. The UE measures the received power level of the attenuated network signal and determines a path loss of the radio channel. The UE also decodes the signalled SNIR Target value from the network signal. The UE computes a transmit power level based on the SNIR Target value, the determined path loss and, if available, the uplink interference measurements.

[0037] FIGURE 2 illustrates a wireless communication system using an open loop scheme. A UE transmits 200 user data at a determined transmit power level. An uplink signal 202, which includes user data 204, propagates through the radio link. The network receives an attenuated version of the transmitted signal. The network measures 207 an uplink interference value and determines 206 an error metric of the uplink signal. The network may use the measured uplink interference value to update 208 an interference measurement table. The interference measurement table may include average measured interference levels for each uplink timeslot.

[0038] The network also uses the error metric to update 210 an SNIR Target value. The network transmits 212 SNIR Target in a signalling message on the downlink 214, which includes the SNIR Target 216. The UE receives and saves 220 the SNIR Target. The network also broadcasts 222 a beacon signal on the downlink 224. The downlink 224 propagates the signal, which includes an indication of the beacon power level 226, over the radio link. The network may also broadcast the interference measurements 228. The UE measures 230 the received power level and saves 232 the interference measurements for later processing.

[0039] With the measured power level and the signalled beacon power level, the UE may determine a path loss. The UE may use the saved received SNIR Target 216, the saved received interference measurements 228 and the computed path loss to set 234 a transmit

power level. This transmit power level may be used by transmitter 200 to set the power level of transmitted user data 204 on the uplink 202.

[0040] The 3GPP specifications also define a closed loop scheme. For example, a 3GPP 1.28 Mcps system employs a closed loop scheme using an outer loop and an inner loop. The closed loop TPC scheme is the primary power control mechanism used for all non-PRACH channels in a 1.28 Mcps TDD system. The closed loop TPC scheme is not currently employed for the uplink of 3.84 Mcps TDD systems.

[0041] The outer loop determines an SNIR Target value and the inner loop uses the SNIR Target value. The outer loop includes network components that determine an error metric, such as a bit error rate, a block error rate or a CRC error count, on uplink traffic from UEs. This error metric is used to set and update an SNIR Target value. An inner loop includes network components that use the SNIR Target value computed and set by the outer loop. The network measures a received SNIR value of the uplink signal.

[0042] Next, a comparator determines whether the measured SNIR value is greater than or less than the SNIR Target value. If the measured SNIR value is greater than the SNIR Target value, the network signals a transmit power control (TPC) command on the downlink instructing the UE to reduce its current transmitter power by a step value (e.g., 1 dB). On the other hand, if the measured SNIR value is less than the SNIR Target value, the network signals a TPC command instructing the UE to increase its current transmitter power by the step dB value.

[0043] In a system employing only a closed loop power control scheme, several TPC commands may be necessary to properly bring the UE's transmitted power in line with the SNIR Target value. For example, if a path loss increases from one frame to the next by 15 dB, the system will take 15 TPC commands to compensate for the 15 dB fade. A UE accumulates the increase and decrease TPC commands to determine a proper uplink transmit power level. By increasing and decrease uplink power levels of each UE, a network attempts to control the power level of each UE such that the ratio of the received uplink energy level per transmitted bit to the spectral density of the noise and interference signals is a constant value. This TPC command adjustment process is performed for each UE in a cell. The constant value, however, may be non-uniform among the UEs depending upon the configuration of the system.

[0044] In a closed loop TPC scheme, the inner loop SNIR is maintained via a closed loop method using binary feedback. The feedback indicates either power up or power down. Every time a TPC command is received an integrator in the UE is used within the inner loop to update the UE transmit power by a step amount +/-Δ dB. The TPC commands themselves are derived by the network and are signalled to the UE via a downlink channel. When calculating the proper TPC command to send, the network measures the received SNIR and compares this measured value to an SNIR Target value. If the SNIR is too low, an up command is sent. If the SNIR is too high, a down command is sent. The target SNIR value is updated by the outer loop based upon the observed error performance of the link. In this way, both the inner and outer feedback loops are closed by the TPC signalling.

[0045] FIGURE 3 illustrates a wireless communication system using a closed loop scheme. The closed loop scheme includes an outer loop in which a UE transmits 300 user data over the radio link in an uplink signal 302 that contain the user data 304. The network determines 306 an error metric of the received uplink signal. Using the error metric, the network computes and updates 308 an SNIR Target value.

[0046] The closed loop scheme also includes an inner loop in which the network measures 310 the received SNIR of the uplink signal 302. The network compares 312 the measured SNIR with the SNIR Target determined in the outer loop. The inner loop generates and transmits 314 a TPC command based on the comparison 312. A downlink signal 316 carries the TPC command 318 over the radio link. The UE accumulates 320 the TPC commands and uses the accumulated TPC commands to set 322 a transmit power for future uplink transmissions 300.

[0047] A mobile radio system employing either an open loop scheme or a closed loop scheme has its advantages and disadvantages.

[0048] The open loop scheme advantageously adapts quickly to path loss changes. If the path loss is observed to have worsened, for example by 15 dB in one 10 ms interval, the transmit power may be adjusted accordingly. A further advantage is that the open loop may continue to be partially updated in the absence of user-specific feedback signalling. For example, when a UE does not receive updated SNIR Target values, the outer loop pauses but changes in the path loss may continue to be tracked.

[0049] Disadvantageously, the timeslot interference level update rate in an open loop system is relatively slow. Therefore, a system using an open loop scheme is slower to adapt to interference changes than a system using the closed loop scheme. A further disadvantage of the open loop scheme is that interference is considered to be the same for all UEs in a particular uplink timeslot. That is, each UE assigned to a timeslot uses the same interference measurement signalled by the base station on the BCH. A commonly used interference measurement table makes assumptions about the statistical nature of the interference and does not consider the individual cross-correlation properties of the uplink channelization codes. It is thus left to the outer loop to compensate for these effects, but unfortunately on a slow basis.

[0050] Conversely, the closed loop only scheme is less able to adapt to fast path loss changes because the closed loop can only move by a step Δ dB during each update. Thus, if the path loss has changed between updates by 15 dB and the step Δ dB value is only 1 dB, the closed loop is not able to adjust quickly since it can move only by 1 dB during each cycle. Therefore, for the same update rate (e.g., once per 10 ms), a closed loop TPC scheme is less able to track the fast fading observed in common mobile radio channels. Furthermore, the closed loop may not be updated during a pause in transmission of the TPC commands.

[0051] Advantageously, the closed loop is relatively quick to respond to uplink interference changes since both path loss and interference are accommodated by the same loop. The closed loop scheme using TPC commands has a further advantage in that it allows for per-user interference adaptation, in contrast to the open loop scheme, which broadcasts an average interference table for each timeslot.

[0052] In accordance with the present invention, aspects of both an open loop scheme and a closed loop scheme are strategically combined to form a power control method. Some embodiments of the present invention advantageously combine elements of both open loop and closed loop schemes to control power levels, thereby avoiding one or more of the disadvantages associated with either of the separately used schemes.

[0053] In accordance with some embodiments of the present invention, a UE incorporates the TPC structure of a closed loop scheme and the path loss estimation structure of an open loop scheme. Some embodiments of the present invention allow for both relatively quick adaptation to fast fading and also allow for per-user interference adaptation, and retain the

ability to partially update the power control loop even in the temporary absence of TPC commands.

[0054] Some embodiments of the present invention require modifications to one or more elements of a standard mobile radio system. For example, some embodiments require changes to just a UE, while other embodiments require modifications to just the network. Embodiments that modify a UE but not the network allow the UE of the present invention to operate with legacy base stations. Similarly, embodiments that modify the network but not the UE allow the network of the present invention to operate with legacy UEs. Still other embodiments of the present invention require modification to both the network and the UE. Embodiments modifying standard network elements may include changes to just a base station but not a radio network controller (RNC). Other embodiments modify both a base station and an RNC.

[0055] Some embodiments of the present invention, incorporate a loop having three components: an open loop component located in the UE, an SNIR comparison loop located in the network, and an SNIR update component also located in the network.

[0056] First, an open loop component may be located in the UE and driven by measured beacon received power levels and path loss calculations. This loop tries to adapt to all instantaneous path loss changes on a per-beacon transmission basis. The partial power calculated by this loop is a function of the beacon signal transmission power (P_{Tx}) and the beacon received signal code power (RSCP) and is denoted $P_{open}(k)$, where k represents the current frame number. P_{Tx} is known to the UE and derived from the base station signalled power level (428, FIGURE 4) and the measured power level for frame k, ($RSCP(k)$), may be determined by the UE receiver (432, FIGURE 4). $P_{open}(k)$ may also be a function of a constant value (C) to ensure that the transmission arrives at an appropriate power level.

$$P_{open}(k) = P_{Tx} - RSCP(k) + C$$

[0057] Second, an SNIR comparison loop is located in the network, such as in the Node-B. The SNIR comparison loop is driven by received SNIR metrics. A received SNIR is compared to a SNIR Target value, which is set by an outer loop. A comparison result leads to the signalling of a TPC command that is signalled to the UE to change its transmit power. Binary signalling may be used, such that the TPC command indicates a change in

transmission power by a fixed amount either up or down. Alternately, a multi-level TPC command may be used.

[0058] Third, an outer loop is located in the network, such as in the Node-B or RNC. The outer loop is driven by the data error statistics observed on the uplink transmissions. The outer loop is responsible for setting an SNIR Target level for the SNIR comparison loop.

[0059] An optional auxiliary process in the UE adjusts the transmit power based upon: (a) y_{SF}, the spreading factor (SF) of the physical channel; and (b) β_{TFC}, the selected transport format (TFC).

[0060] Thus, for the current frame k, the UE may calculate the transmit power $P_{Tx}(k)$ as shown below where K is the initial frame number determined when the power control process begins; $TPCi$ is -1 for a down TPC command, $+1$ for an up TPC command and 0 if no TPC command is received; and *step* is the magnitude of the amount added to an accumulator upon receipt of each TPC command. The transmit power $P_{Tx}(k)$ may be updated for every frame period. Alternatively, the transmit power $P_{Tx}(k)$ may be updated each time a new TPC command is received. Alternatively, the transmit power $P_{Tx}(k)$ may be updated only when either a TPC command or a new power level is received from the network.

$$P_{Tx}(k) = P_{open(k)} + step \cdot \sum_{i=k-K}^{k} TPC_i + y_{SF} + \beta_{TFC}$$

[0061] An embodiment of a power control scheme, in accordance with the present invention, is shown diagrammatically in FIGURE 4. The y_{SF} and β_{TFC} adjustment factors are not shown for diagrammatical clarity.

[0062] FIGURE 4 illustrates a wireless communication system using elements of both open loop and closed loop schemes, in accordance with the present invention. A UE transmits 400 user data at a determined transmit power level. An uplink signal 402, which includes the user data 404, propagates through the radio link. The network receives an attenuated version of the transmitted signal.

[0063] The network determines 406 an error metric of the uplink signal 402. Optionally, the network measures an uplink interference level and may update 422 an interference measurement table. Data measured or computed from uplink measurements may be entered into the interference measurement table. The interference measurement table may include

average measured interference levels for each uplink timeslot. Within the network the error metric may be used to update 408 an SNIR Target value.

[0064] The network also transmits 424 a beacon signal. The downlink signal 426, which includes an indication of the beacon transmit power level 428**,** propagates over the radio link. Optionally, the network may broadcast the interference measurements 430. The UE saves 432 the signalled power level, measures the received power level and, if available, saves 434 the interference measurements for later processing.

[0065] As in a closed loop scheme, a UE transmits 400 user data over the radio link in an uplink signal 402 that contain the user data 404. The network determines 406 an error metric of the received uplink signal. Using the error metric, the network computes and updates 408 an SNIR Target value.

[0066] The network also measures 410 the received SNIR of the uplink signal 402. The network compares 412 the measured SNIR with the determined SNIR Target. The network generates and transmits 414 a TPC command based on the comparison 412. A downlink signal 416 carries the TPC command 418 over the radio link. The UE accumulates 420 the TPC commands and uses the accumulated TPC commands in part to set 436 the transmit power level for future uplink transmissions 400.

[0067] As in an open loop scheme, with the measured power level and the signalled beacon power level, the UE may determine a path loss $P_{open}(k)$. The UE may use the saved received interference measurements $I(k)$ to adjust the transmission power following a pause in transmission or following a pause in receipt of TPC commands. The UE may use the accumulated TPC commands

$$\sum_{i=k-K}^{k} TPC_i$$

the computed path loss $P_{open}(k)$, adjustment factors y_{SF} & β_{TFC} and optionally, adjustments based upon $I(k)$ to set 436 a transmit power level. This transmit power level $P_{Tx}(k)$ may be used to set the uplink power level of transmitted 400 user data on the uplink 402**.**

[0068] The downlink signal 426, which contains the power level 428 and may contain the interference measurements 430, is broadcast in a cell. Previous UEs using a closed loop scheme do not use measurements of the downlink received power while monitoring the

power level signalling in a beacon broadcast to set the uplink transmission power. Similarly, previous UEs using a closed loop scheme do not compute or do not use computations of the downlink path loss while processing TPC commands. A previous UE simply follows the TPC commands as it is instructed to set its transmit power level. If a network instructs a known UE to increase its transmit power by one step amount, the previous UE shall increase its power level by one step amount.

[0069] In accordance to the present invention, a UE may receive a TPC command instructing it to change its transmit power by one step level in a particular direction, but the UE may actually change its transmit power level by a different amount or in fact an amount in the opposite direction. The UE uses the TPC only as a factor in determining whether to increase transmit power level, decrease transmit power level or leave the transmit power level unchanged.

[0070] For example, assume a UE just transmitted a burst to a Node-B at 20 dBm over a radio link with a path loss of 110 dB. The received power at the Node-B receiver would be -90 dBm, which is the difference between 20 dBm and a loss of 110 dB. Next, assume the Node-B wants to receive an uplink signal from the UE at -89 dBm. The Node-B would signal and the UE would receive a TPC command instructing the UE to increase the uplink transmit power level by 1 dB. Also assume that the path loss improves from the previous frame to this frame by +10 dB (e.g., from 110 dB to 100 dB).

[0071] A previous UE would transmit the next burst at +21 dBm, which is the sum of the previous level (+20 dBm) and the step increase (1 dB). The transmitted +21 dBm signal would probably reach the Node-B at -79 dBm, a signal level that is +10 dB too great because the channel improvement was not taken into account.

[0072] In accordance with the present invention, a UE would account for the new path loss. The previous transmit power level of +20 dBm would be decreased by +10 dB to account for the improved channel path loss of +10 dB. The resulting transmit power level would then be +10 dBm. The UE also accounts for the TPC command by adjusting the transmit power level by the desired step of +l dB, resulting in a new transmit power level of +11 dBm, which both accounts for the improved channel (+10 dB) and accommodates the Node-B's desire to have a received signal with a step increase (+1 dB). The +11 dBm would reach the Node-B at the desired level of -89 dBm if the channel pathloss estimate was

accurate. As shown in this example, the transmit power level dropped 9 dB (from +20 dBm to +11 dBm) even though the Node-B TPC command instructed an increase of 1 dB.

[0073] Therefore, even though a UE receives a network TPC command instructing it to step up or down its uplink transmit power by 1 dB, the UE may actually change the transmit power level by a different amount. In fact, the UE transmit power level may change in a direction opposite of the TPC command as exemplified above.

[0074] During a period of inactivity on the uplink 402, TPC commands 418 may not have been received by the UE. The UE transmit power level for a subsequent initial transmission 400 may be determined using current updates of the open loop component. That is, the initial transmit power level may be determined based on the beacon power level 428, the measured 432 received power level, and optionally the interference measurements 430. The open loop component does not require feedback, thus may continue to be updated every beacon transmission even during the uplink transmission pause.

[0075] The history stored in the TPC accumulator may be stale. In some circumstances the history may be considered useful and is not reset. Alternatively, the accumulated TPC history could be used to set the uplink transmit power level but with some excess power margin added to ensure a clean start to the loop. Alternatively, the UE may decide to discard the accumulated TPC history and to reset it to a default or initial value. The default or initial value may optionally be based upon a received interference measurement table 430.

[0076] The ability of the open loop component to compensate for fast fading is a function of the channel speed and the delay between the beacon timeslot and the uplink timeslots. Open loop control is often effective at pedestrian speeds as well as at higher speeds if the uplink slots are placed close in time to the beacon. At high mobile speeds, it is likely that power control performance will be improved if beacon RSCP filtering is enabled at the UE. The UE is responsible for detecting whether or not filtering should be applied to the open loop component. Automatic detection of the channel speed may be performed by the UE in order to control the enabling of RSCP filtering. In some embodiments of the present invention, a UE disables a combined open loop/closed loop scheme operating in accordance with the present invention when a UE passes a threshold value indicative of mobile speed.

[0077] Simulations have been performed to illustrate the performance advantages of some embodiments of the present invention. The radio channel simulated here represents an ITU

indoor to outdoor and pedestrian model B channel as described in ITU-R M.1225 Guidelines for Evaluation of Radio Transmission Technologies for IMT-2000. The outer loop SNIR target was based upon a 1% error rate. A residual SNIR error term observed at the base station was monitored.

[0078] FIGURES 5A, 5B and 5C each illustrate a simulated probability density function of the received SNIR in the network. In each of the simulations, approximately 10,000 received SNIR values are sampled. Simulation results for each scenario are grouped and collected into bins. The vertical axis shows a number of occurrences for a particular range (bin) of received SNIR values. A sampled received SNIR value that fall within a range defined by a bin is counted as an occurrence for that bin.

[0079] FIGURE 5A shows simulation results for a system using only an open loop scheme. In this plot, the bin width is approximately 0.42 dB. The simulation results show a system good at tracking fast fading in the channel, but not as able to track the interference variations included in the simulation. These values are only updated at the UE via signalling every 160 ms. As such, the error term shows considerable variance at the receiver.

[0080] FIGURE 5B shows simulation results for a system using only a closed loop scheme. In this plot, the bin width is approximately 0.48 dB. The simulation results show a system better able to track the interference changes, but not as able to track the path loss due to being limited in response to the TPC command +/- 1 dB step size.

[0081] FIGURE 5C shows simulation results for a system combining aspects of both open and closed loop schemes (as shown in FIGURE 4). In this plot, the bin width is approximately 0.24 dB. The simulation results show a system able to respond to both path loss and interference changes. Additionally, the residual SNIR error term shows less variance. The plot shows that the variance of this distribution is considerably reduced for the combined power control scheme.

[0082] For the above simulations (using the same fading and interference profiles for each loop method), the following mean transmit powers were obtained:

Power Control Method	Mean Transmit Power for 1% BLER
Open Loop: (FIGURE 2)	5.76 dB
Closed Loop: (FIGURE 3)	5.48 dB
Combined Loops: (FIGURE 4)	3.59 dB

Table 1 – Performance of Power Control Schemes

[0083] For the simulated channel and interference scenario, the combined scheme is able to maintain a 1% block error rate (BLER) using 2.17 dB less power than the open loop scheme and 1.89 dB less power than the closed loop scheme. In a real system, this power saving may equate to greater cell coverage, higher uplink capacity and throughput, and increased battery life. The magnitude of the gains may change with different channel speeds, types and interference profiles but the performance of the combined should be better than both the open loop and closed loop schemes when used individually.

[0084] In terms of signalling overhead, the combined scheme helps to avoid a need to signal SNIR Target and interference levels on downlink channels, and has a similar signalling efficiency as the closed loop scheme. In some embodiments, the signalling efficiency is 1 bit per update.

[0085] In a system using the combined power control scheme, a new physical channel on the downlink may be used to carry fast allocation and scheduling information to a user, thereby informing the UE of the uplink resources that it may use. This new physical channel could also be used as the feedback channel for the combined power control scheme. For example, an allocation/scheduling channel could carry TPC commands. Alternatively, the combined scheme may be applied to existing channel types (dedicated or shared uplink physical channels) for UTRA TDD as well as to other TDD systems.

[0086] Some embodiments of the present invention control uplink power levels and may be incorporated into a UE with supporting features incorporated into a base station. For example, a Node-B or RNC may be implemented with a new parameter, either included in a signalling command or a broadcast message, where the new parameter instructs a UE to enable or disable the setting of uplink transmit power level based on both the path loss

estimation and the TPC commands. A parameter may indicate whether a UE is to use open loop power control, closed loop power control or a combined scheme.

[0087] Some embodiments of the present invention operate with a downlink signal including both a TPC command and an indication of the downlink transmit power level. In these embodiments, the downlink signal provides both downlinks 416 and 430 (FIGURE 4) in one signal. A UE may receive one physical channel that it decodes for TPC commands, decodes for downlink power level indications, and measures for received power levels. In these embodiments, the UE measures a power level of a received signal, receives a TPC command, and calculates a transmit power level based on the power level of the received signal and the TPC command.

[0088] While the invention has been described in terms of particular embodiments and illustrative figures, those of ordinary skill in the art will recognize that the invention is not limited to the embodiments or figures described. For example, the combined uplink power control scheme described above may be implemented a mirror image for controlling downlink power. In this case, functions performed by the UE for a combined uplink scheme may be performed by the network. Similarly, functions performed by the network for the combined uplink scheme may be performed by the UE.

[0089] The figures provided are merely representational and may not be drawn to scale. Certain proportions thereof may be exaggerated, while others may be minimized. The figures are intended to illustrate various implementations of the invention that can be understood and appropriately carried out by those of ordinary skill in the art.

[0090] Therefore, it should be understood that the invention can be practiced with modification and alteration within the spirit and scope of the appended claims. The description is not intended to be exhaustive or to limit the invention to the precise form disclosed. It should be understood that the invention can be practiced with modification and alteration and that the invention be limited only by the claims and the equivalents thereof.

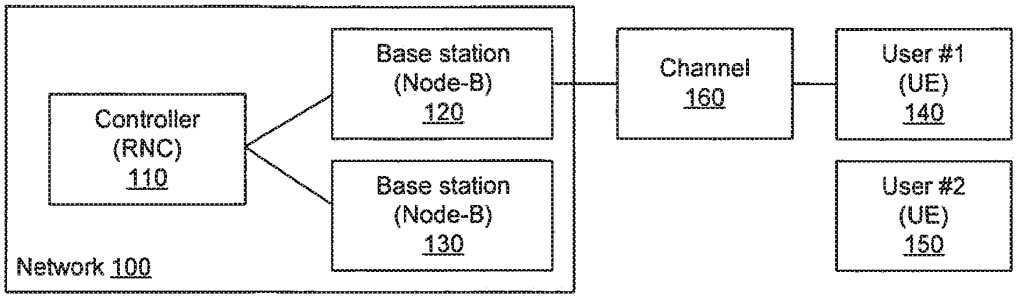


FIGURE 1

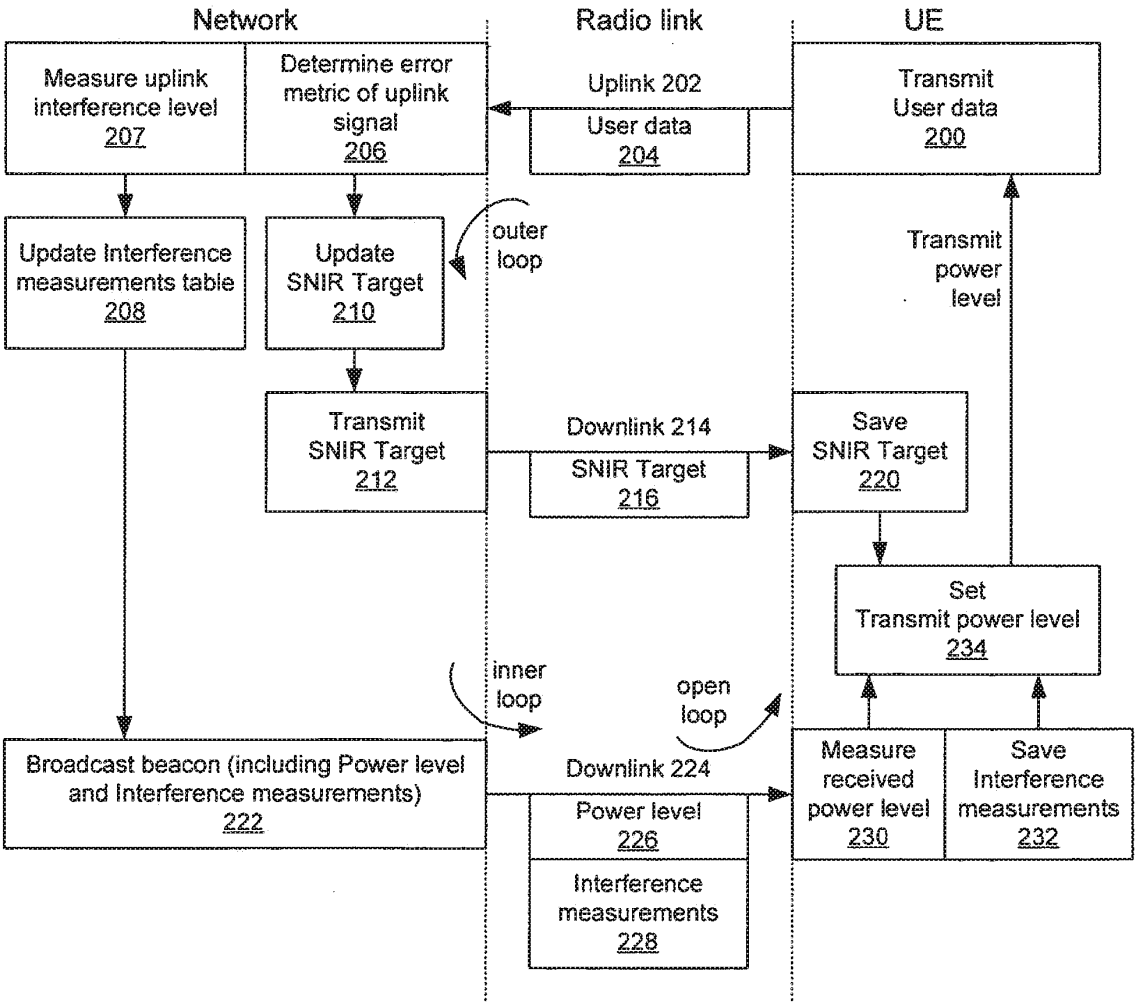


FIGURE 2

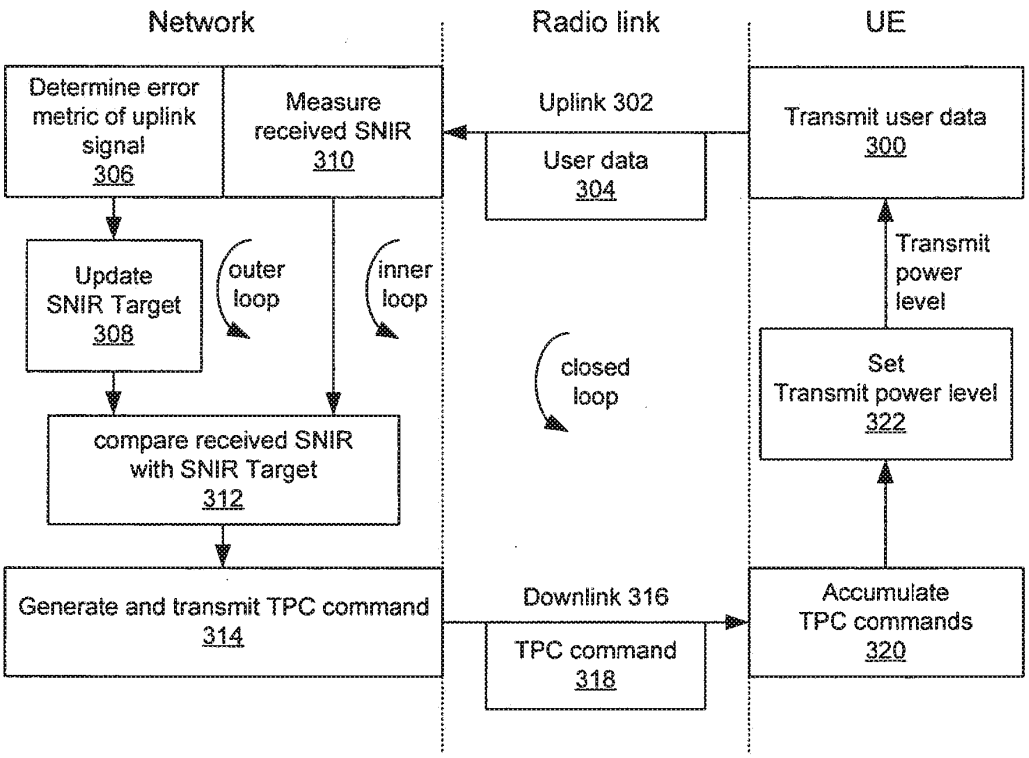

Network
Radio link
UE
Determine error metric of uplink signal 306
Measure received SNIR 310
Uplink 302
User data 304
Transmit user data 300
Update SNIR Target 308
outer loop
inner loop
Transmit power level
closed loop
Set Transmit power level 322
compare received SNIR with SNIR Target 312
Generate and transmit TPC command 314
Downlink 316
TPC command 318
Accumulate TPC commands 320

FIGURE 3

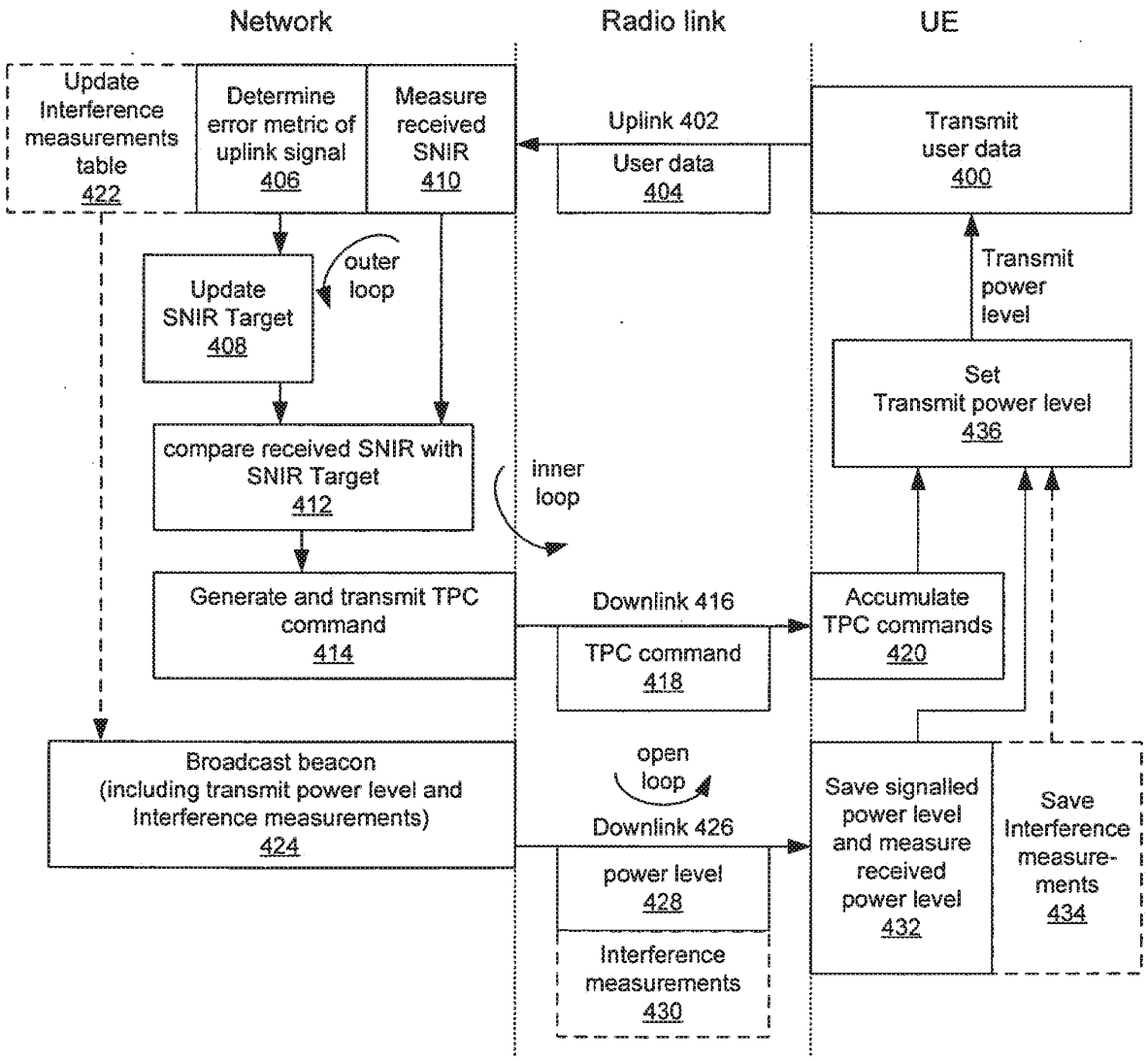

Network
Radio link
UE
Update Interference measurements table 422
Determine error metric of uplink signal 406
Measure received SNIR 410
Uplink 402
User data 404
Transmit user data 400
Transmit power level
Update SNIR Target 408
outer loop
Set Transmit power level 436
compare received SNIR with SNIR Target 412
inner loop
Generate and transmit TPC command 414
Downlink 416
TPC command 418
Accumulate TPC commands 420
Broadcast beacon (including transmit power level and Interference measurements) 424
open loop
Downlink 426
power level 428
Interference measurements 430
Save signalled power level and measure received power level 432
Save Interference measure-ments 434

FIGURE 4

FIGURE 5A

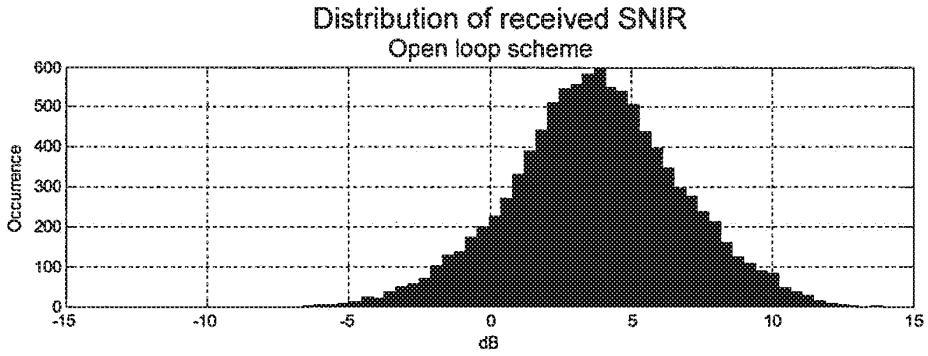


FIGURE 5B

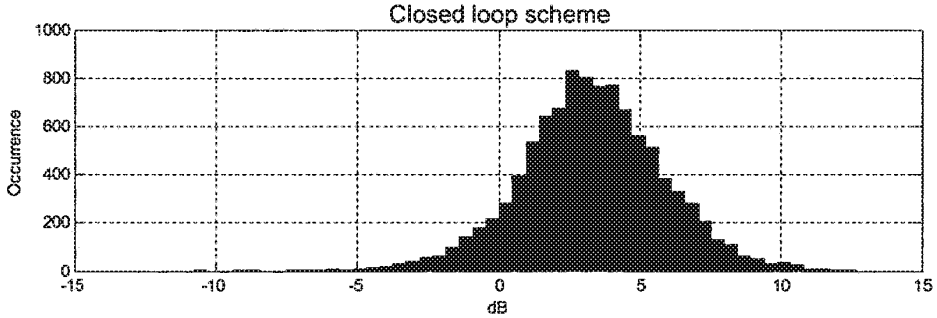
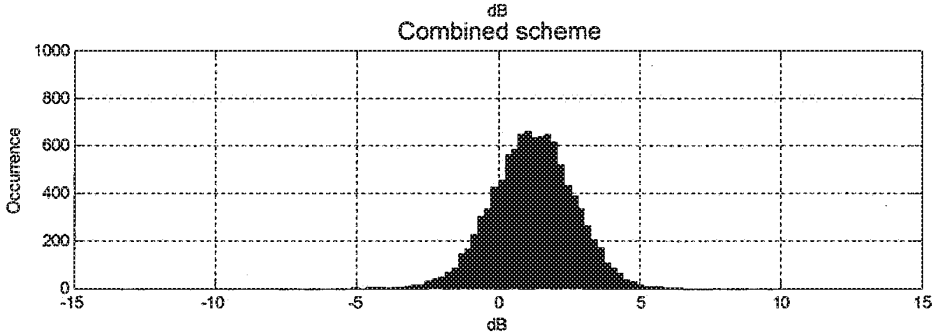


FIGURE 5C



Electronic Acknowledgement Receipt

EFS ID:	35996189
Application Number:	16410614
International Application Number:	
Confirmation Number:	9059
Title of Invention:	Power Control in a Wireless Network
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Customer Number:	26111
Filer:	Ross Gordon Hicks/Lynette Miller
Filer Authorized By:	Ross Gordon Hicks
Attorney Docket Number:	3059-7430007
Receipt Date:	13-MAY-2019
Filing Date:	
Time Stamp:	16:32:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	2019-05-13-cover-letter-3059-7430007.pdf	223718 22f09e47ea94d5b6823eafc28fcef7512e1386a4	no	2

Warnings:

Information:					
2	Transmittal of New Application	2019-05-13-AIA-15-Transmittal-3059-7430007.pdf	191710 d62727bc965b2c7c6a7ca0923537277065e61126	no	1
Warnings:					
Information:					
3	Authorization for Extension of Time all replies	2019-05-13-EOT-3059-7430007.pdf	93497 5687569e151a41998ed743698fb7273b4e202925	no	1
Warnings:					
Information:					
4	Miscellaneous Incoming Letter	2019-05-13-Rescinder-3059-7430007.pdf	68245 2ccd06b4ea20b798e6f25226d549ad29f11bc1b8	no	1
Warnings:					
Information:					
5	Oath or Declaration filed	2019-05-13-declaration-3059-7430007.pdf	551812 fd7f6af877127e324615357cd38f9a0008dfc409	no	1
Warnings:					
Information:					
6	Power of Attorney	2019-05-13-POA-82A-3059-7430007.pdf	147252 26ce20a4d29fa44b869bd604f08da4c18e2a01dd	no	1
Warnings:					
Information:					
7	Power of Attorney	2019-05-13-POA-82B-3059-7430007.pdf	1423248 348e00fc3d53ca9d7dd919070e7aa298287cba56	no	1
Warnings:					
Information:					
8	Application Data Sheet	2019-05-13-ADS-3059-7430007.pdf	105793 3f518dd09226b79763864c3707bfe47d56c91f01	no	9
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					

9		2019-05-13-specification-3059-7430007.pdf	250724 a663666977625fe208bdf64bd1c13f58ccc7c0ab	yes	22

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Abstract	22	22
	Claims	20	21
	Specification	1	19

Warnings:					
Information:					
10	Drawings-only black and white line drawings	2019-05-13-Drawings-7430007.pdf	2073065 cf4e88528444d8cf52de7cde718aab62703a894c	no	4
Warnings:					
Information:					
		Total Files Size (in bytes):	5129064		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

ROSS G. HICKS
DIRECTOR
(202) 772-8578
RHICKS@STERNEKESSLER.COM

May 13, 2019

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Re: U.S. Non-Provisional Patent Application Under 37 C.F.R. § 1.53(b)
(*Continuation of Appl. No. 15/645,523; Filed: July 10, 2017*)
Appl. No. To Be Assigned; Filed: Herewith
For: **Power Control in a Wireless Network**
Inventor: Nicholas W. ANDERSON
Our Ref: 3059.7430007

Commissioner:

The following documents are transmitted herewith for appropriate action by the U.S. Patent and Trademark Office:

1. Utility Patent Application Transmittal Form (PTO/AIA/15);

2. Authorization to Treat a Reply As Incorporating An Extension of Time Under 37 C.F.R. § 1.136(a)(3);

3. Rescinder of All Disclaimers of Claim Scope;

4. U.S. Utility Patent Application entitled:

   Power Control in a Wireless Network

   and naming as inventor:

   Nicholas W. ANDERSON

   the application consisting of:

   a. An Application Data Sheet (37 C.F.R. § 1.76);

   b. A copy of the executed Declaration, as originally filed in prior U.S. Appl. No. 13/727,153;

c. A specification containing:

i. 19 pages of description prior to the claims;

ii. 2 pages of claims (8 claims);

iii. a one (1) page abstract;

d. 4 sheets of drawings (Figures 1-2, 3, 4 and 5A-5C);

5. An executed Power of Attorney by Applicant (PTO/AIA/82B) and the Transmittal for Power of Attorney form (PTO/AIA/82A).

The above-listed documents are filed electronically.

This patent application is being submitted under 37 C.F.R. § 1.53(b) without the required fees.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

/Ross G. Hicks, #56,374/

Ross G. Hicks
Attorney for Applicant
Registration No. 56,374

RGH/lam
Enclosures

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PTO/AIA/15 (10-17)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	3059.7430007
First Named Inventor	Nicholas W. ANDERSON
Title	Power Control in a Wireless Network
Priority Mail Express® Label No.	

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☐ **Fee Transmittal Form** (PTO/SB/17 or equivalent)
2. ☐ **Applicant asserts small entity status.** See 37 CFR 1.27
3. ☐ **Applicant certifies micro entity status.** See 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent.
4. ☑ **Specification** [*Total Pages* 22] Both the claims and abstract must start on a new page. *(See MPEP § 608.01(a) for information on the preferred arrangement)*
5. ☑ **Drawing(s)** (35 U.S.C. 113) [*Total Sheets* 4]
6. **Inventor's Oath or Declaration** [*Total Pages* 1] *(including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e))*
   a. ☐ Newly executed (original or copy)
   b. ☑ A copy from a prior application (37 CFR 1.63(d))
7. ☑ **Application Data Sheet** ** See note below.* See 37 CFR 1.76 (PTO/AIA/14 or equivalent)
8. **CD-ROM or CD-R** in duplicate, large table, or Computer Program (*Appendix*)
   ☐ Landscape Table on CD
9. **Nucleotide and/or Amino Acid Sequence Submission** (*if applicable, items a. – c. are required*)
   a. ☐ Computer Readable Form (CRF)
   b. ☐ Specification Sequence Listing on:
      i. ☐ CD-ROM or CD-R (2 copies); or
      ii. ☐ Paper
   c. ☐ Statements verifying identity of above copies

ADDRESS TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**

ACCOMPANYING APPLICATION PAPERS

10. ☐ **Assignment Papers** (cover sheet & document(s))
    Name of Assignee _____
11. ☐ **37 CFR 3.73(c) Statement** (*when there is an assignee*) ☑ **Power of Attorney**
12. ☐ **English Translation Document** (*if applicable*)
13. ☐ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
    ☐ Copies of citations attached
14. ☐ **Preliminary Amendment**
15. ☐ **Return Receipt Postcard** (*MPEP § 503*) (*Should be specifically itemized*)
16. ☐ **Certified Copy of Priority Document(s)** (*if foreign priority is claimed*)
17. ☐ **Nonpublication Request** Under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent.
18. ☑ **Other:** Authorization to Treat a Reply as Incorporating an Extension of Time Under 37 C.F.R. § 1.136(a)(3)
    Rescinder of All Disclaimers of Claim Scope

***Note:** (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 **must** be included in an Application Data Sheet (ADS).
(2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary interest in the matter. See 37 CFR 1.46(b).

19. CORRESPONDENCE ADDRESS

☐ The address associated with Customer Number: _____ **OR** ☐ Correspondence address below

Name					
Address					
City		State		Zip Code	
Country		Telephone		Email	

Signature	/Ross G. Hicks, #56,374/	Date	May 13, 2019
Name (Print/Type)	Ross G. Hicks	Registration No. (Attorney/Agent)	56,374

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Nicholas W. ANDERSON	Confirmation No.: To Be Assigned
Applicant: Intellectual Ventures II LLC	Art Unit: To Be Assigned
Application No.: To Be Assigned (*Continuation of Appl. No. 15/645,523; Filed: July 10, 2017*)	Examiner: To Be Assigned
Filed: Herewith	Atty. Docket: 3059.7430007

Title: **Power Control in a Wireless Network**

Authorization to Treat a Reply as Incorporating an Extension of Time Under 37 C.F.R. § 1.136(a)(3)

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Commissioner:

The U.S. Patent and Trademark Office is hereby authorized to treat any concurrent or future reply that requires a petition for an extension of time under this paragraph for its timely submission, as incorporating a petition for extension of time for the appropriate length of time. The U.S. Patent and Trademark Office is hereby authorized to charge all required extension of time fees to our Deposit Account No. 19-0036, if such fees are not otherwise provided for in such reply.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

/Ross G. Hicks, #56,374/

Ross G. Hicks
Attorney for Applicant
Registration No. 56,374

Date: May 13, 2019

1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Nicholas W. ANDERSON	Confirmation No.: To Be Assigned
Applicant: Intellectual Ventures II LLC	Art Unit: To Be Assigned
Application No.: To Be Assigned	Examiner: To Be Assigned
Filing Date: May 13, 2019	Atty. Docket: 3059.7430007

Title: **Power Control in a Wireless Network**

Rescinder of All Disclaimers of Claim Scope

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Commissioner:

With respect to this Application, Applicant hereby rescinds any disclaimer of claim scope made in the parent application or any predecessor or related application. The Examiner is advised that any previous disclaimer of claim scope, if any, and the alleged prior art that it was made to allegedly avoid, may need to be revisited. Nor should any previous disclaimer of claim scope, if any, in this Application be read back into any predecessor or related application.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

/Ross G. Hicks, #56,374/

Ross G. Hicks
Attorney for Applicant
Registration No. 56,374

Date: May 13, 2019

1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600

13170482_1.docx

PTO/AIA/01 (05-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	POWER CONTROL IN A WIRELESS NETWORK

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 13/727,153

filed on December 26, 2012.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Nicholas W. ANDERSON Date (Optional): 19th March 2013

Signature: [signature]

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	To Be Assigned
Filing Date	Herewith
First Named Inventor	Nicholas W. ANDERSON
Title	Power Control in a Wireless Network
Art Unit	To Be Assigned
Examiner Name	To Be Assigned
Attorney Docket Number	3059.7430007

SIGNATURE of Applicant or Patent Practitioner

Signature	/Ross G. Hicks, #56,374/	Date (Optional)	May 13, 2019
Name	Ross G. Hicks	Registration Number	56,374
Title (if Applicant is a juristic entity)	Attorney for Applicant		
Applicant Name (if Applicant is a juristic entity)	Intellectual Ventures II LLC		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.